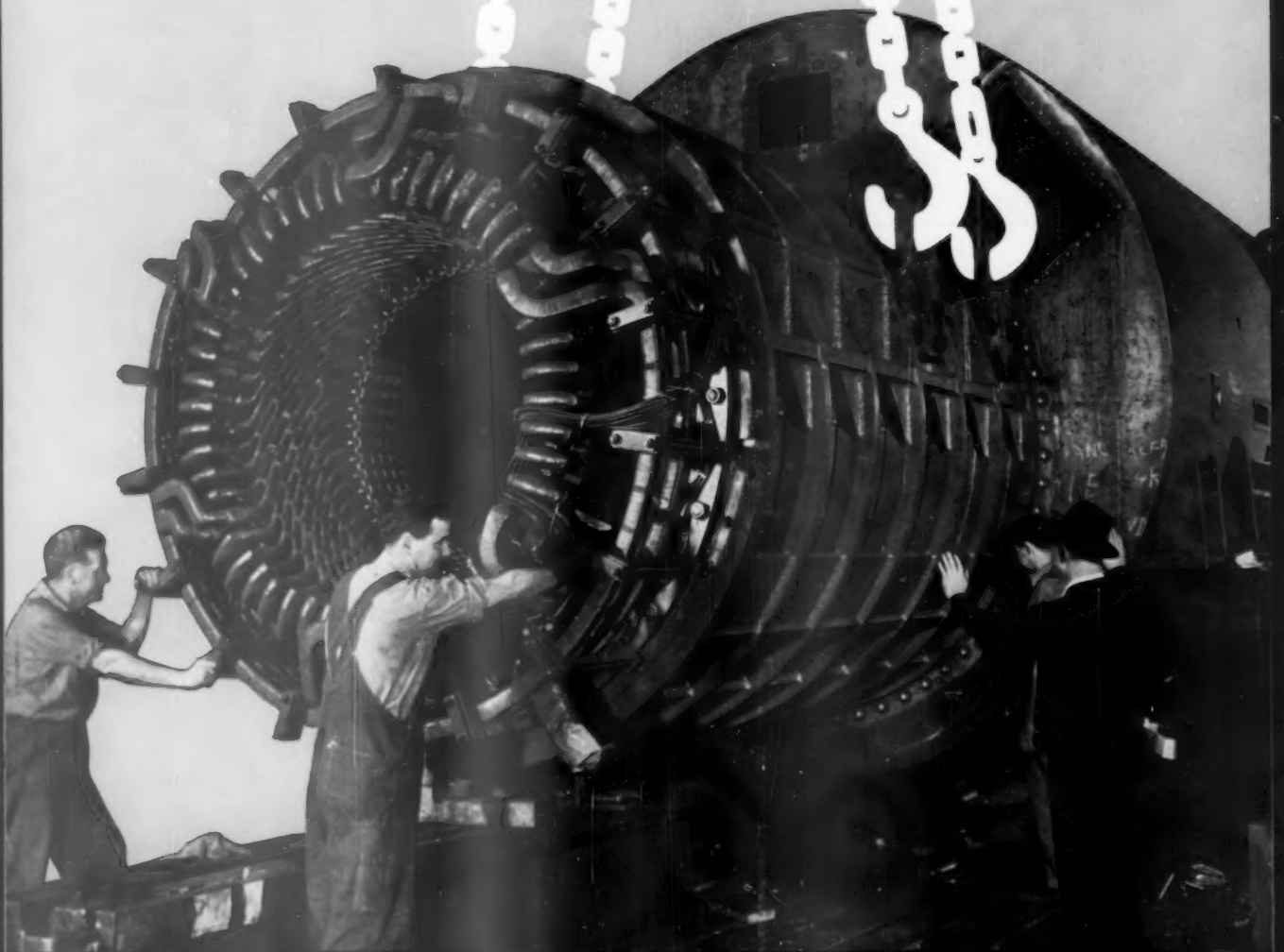


APRIL 1960

National
**SAFETY
NEWS**

A NATIONAL SAFETY COUNCIL PUBLICATION



Get Set for Bigger Loads

**I DID EVERYTHING
I COULD FOR HIM BUT
...FOR HEAVEN'S SAKE
WHY WAS HE WEARING
REGULAR SHOES ON THE JOB**

??-??-??



ONE WORKER DOWN AND ... 219,999 TO GO?

Reliable insurance sources state that according to latest available figures 220,000 industrial foot injuries occurred in a single year.

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A NATIONAL SAFETY COUNCIL PUBLICATION

Vol. 81, No. 4

APRIL 1960

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Chartered by the Congress of the United States



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THE COVER

GENERATORS with many times the capacity of present machines are introducing new material handling problems in the heavy electrical industry. Heavier duty handling equipment and more intensive training of operators are needed. (Photo by Westinghouse Electric Corporation)

37,600 copies of this issue were printed

National Safety News, April, 1960



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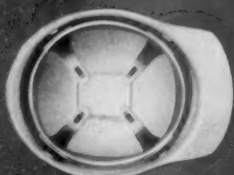
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Suspension consists of non-irritating polyethylene headband and strong, resilient nylon crown straps tied together at top with unbreakable nylon cord. Adjusts easily to head sizes.

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National Safety News, April, 1960

EDITORIAL

The Challenge of Change

THERE IS DANGER in change, Secretary of Labor James P. Mitchell warned the seventh President's Conference on Occupational Safety which met in Washington, March 1-3. And the more rapid and fundamental the change, the greater the danger to the men who must control and utilize it.

While progress may relieve the labor force of many hazardous manual jobs, it does not remove the danger element; it merely moves it to a different plane. As science advances, danger becomes more subtle and more difficult to control.

During the 50's it seemed that progress was advancing at a breathtaking pace. As we enter the 60's the pace is being accelerated sharply.

In a decade the nation's investment in basic research has grown from \$2.5 billion dollars annually to more than \$10 billion.

Much of this, it is true, has aided directly or indirectly in the conservation of life and health. Yet we are now being exposed to more chemicals of known and unknown toxicity, more potentially harmful radiations and higher noise levels.

In spite of the tremendous amount of research being conducted, Conference speakers lamented the lack of positive knowledge in many fields and stressed the need for further research.

Three challenges were presented to the Conference: The changing nature of work, the changing nature of the work force, and the unchanging nature of man himself.

The changing nature of work is obvious. Working and living are being affected by automation and exploration of outer space, by chemical products and nuclear energy, and by electronic systems that almost think.

Our work force is changing, too. There will be more young and inexperienced workers, along with a decrease of men in their working prime—between ages 35 and 44. It is to this group that industry looks for experience, supervision, and leadership. The proportion of older workers and working women will rise sharply. There will be more jobs requiring skills and education.

New discoveries will increase the demand for scientists to teach and conduct research in fields like electronics, nuclear energy, medical research, and space exploration. Mathematicians, physicists, biologists, and chemists will also be needed. So will men who can service space age machines.

This means that industry will have an increased investment in trained personnel at all levels. The cost of accidents to equipment and men will increase proportionately.

The third challenge is "the unchanging nature of man." Man, in spite of his ability to survive in adverse surroundings, is at heart resistant to change. With changes in working and living conditions, there are psychological factors which contribute to the job hazards of a crowded, urbanized industrial society. Some of these are no less difficult than the physical hazards.

Many lessons could be drawn from the conclusions of the Conference. One is that no individual can possibly acquire all the know-how for the expanded safety job. The team will have to be enlarged.

THE SAFETY VALVE



Nothing human is alien to me

—TERENCE

WHERE THE MONEY GOES

PHYSICIANS AND DENTISTS are getting a smaller share of the medical-care dollar than they did 20 years ago, says the American Medical Association. Accompanying the release were some elaborate pie charts showing how Americans are spending their money.

In 1938, Doc received 31 cents of each buck spent for medical care. By 1958 his share was only 24 cents—down 22.6 per cent.

The dentist got only 10 cents as compared with 13 cents.

Hospital care, on the other hand, took a big jump—from 17 to 26 cents. Hospital charges have soared and more people are going to hospitals, due in large part to the fact that more people are carrying hospital insurance.

Appliances (which might include spectacles, store teeth, crutches, and wooden legs) accounted for 7 cents of the medical care dollar—up 1 cent.

The druggist's share dropped from 24 to 22 cents, which may surprise those who have had a prescription filled recently. This total probably includes patent medicines but not the cosmetics and light hardware found in the modern pharmaceutical supermarket.

Of the dollar which the American consumer spends for all goods and services, medical care of all varieties gets 5.6, which the AMA compares with 5.8 cents spent for recreation and 5.3 cents for tobacco and alcoholic beverages.

Recreation, which is conceded to have some therapeutic value, has perhaps reduced the need for medical treatment. Cigaretts and high-proof beverages, on the other hand, may have increased it, although statistical proof is not readily available. The cost of popular vices, it should be remembered, includes a heavy percentage of taxes levied by federal, state, and municipal agencies.

From the foregoing, you might get the idea that the medical profession has been left behind in our inflationary prosperity. But further reading shows that medical care now gets 6 cents of each consumer dollar as compared with 4 cents in 1938, which is a desirable trend. Recreation has climbed a penny to 7 cents—also good. Tobacco and alcohol have dropped from 8 cents to 5 cents in spite of increases in excise taxes. That does not mean, however, that consumption of cigarets and sourmash has declined.

During the 20-year period personal consumption expenditures rose from \$64,641 million to \$292,956 million, and medical care expenditures from \$2,688 million to \$16,384 million.

The report doesn't give per capita income figures for the profession but from personal experience, the cost

of office and house calls has doubled since 1938. The doctor's income has probably kept pace with most of his customers and nobody would begrudge him that.

But have you yet found anybody who felt he was getting his share of the national income?

THE CASE OF THE INVERTED CUT

MANY OF OUR READERS, no doubt, wondered whether they were seeing straight when they looked at a picture on page 26 of the February NSNews. Here was an upside-down parking lot filled with cars defying the law of gravity.

Now with some pictures, such as close-ups of complicated machines, few people could tell which side is up. But this slip was quite obvious.

In baseball, errors are an unpleasant but inevitable part of the game. The box score contains a column for them. They're an occupational hazard in getting out a publication, too. Better publications than ours have had red faces in the editorial department.

The popular idea of an editor is a chap in an ivory tower with a big blue pencil and a yawning waste basket and a pose of infallibility.

Actually, he is a harassed individual who spends his waking hours trying to guess what readers want and telling the truth fearlessly without stepping on anybody's toes. He is also haunted by the fear of some silly mistake sneaking into print.

Ordinary typos, like aphids on roses, are always with us. Usually they do no harm, but once in a while a mistake may be misleading, like giving the wrong permissible concentration for some poison.

Years ago, I remember, a leading medical journal in an article on resuscitation referred to inhalation of oxygen plus carbon monoxide. We felt quite smug when we saw that one; so obvious a slip would never get by us. But our pride went before a fall. A few months later we slipped on the same banana peeling.

Our latest error, of course, drew a few satirical letters, all of them good-natured. One reader expressed his feelings in verse:

*The editor of SAFETY NEWS
Booboed without a doubt.
A February picture upside down
Caused us with glee to shout.*

*He did us all a favor;
Now Bosso knows it's true
The very best in safety
Sometimes make booboos too.*

Who was to blame?

The cut proof was pasted on the dummy right side up. Page proofs were OK. Then something happened in the pressroom. About halfway through the run, the pressman had to do some work on the form and replaced the cut upside down. We have seen copies of the February issue with the picture both ways.

That, we hope, will get the editors off the hook this time.

Carman Fick

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No. 632

C 6-13
E 5-13

D 5-13
EEE 6-13

In safety shoes, service counts, especially when the quality and craftsmanship built into shoes with the Iron Age label benefit both you and your employees.

The stylish brown Quilon leather oxford, No. 632, pictured here is an outstanding example. It's eye-appealing, comfortable, long-wearing . . . just the steel toe safety shoe to attract your workers and increase your coverage. Ask for a showing.

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SOLES AND HEELS

Iron Age SAFETY SHOES

1205 Madison Avenue, Pittsburgh 12, Pa.





WIRE FROM WASHINGTON

By HARRY N. ROSENFELD

Washington Counsel, National Safety Council

This report is an information service. Publication does not imply National Safety Council approval of or opposition to any legislation mentioned

WITH CONGRESS occupied by a major sectional controversy, the safety spotlight turned to the executive establishment.

President's Conference on Occupational Safety. The gauntlet thrown down before the seventh President's Conference on Occupational Safety was "The Challenge of Safety in a Changing World."

In a message read by Secretary of Labor James P. Mitchell, the President warned the participants that "our occupational accident rate is a national concern." Vice-President Richard M. Nixon related safety to "how we maintain our competitive position in the world economically with the totalitarian countries" and reminded the conferees that industrial safety "is an extremely important aspect of the total problem of productivity and efficiency of an economy . . . and keeping us on a competitive basis with those who challenge us abroad."

The Secretary of Labor called for an exploration of "how to integrate safety education at every level of schooling." He said "safety should be a conscious effort in education from the earliest years" and demanded "greatly increased attention to the teaching of safety."

The U. S. Commissioner of Education accepted the Labor Secretary's call to action, and offered a progress report of the Office of Education National Conference on the School's Contribution to Occupational Safety Through Shop Safety Program.

This report emphasized the necessity for safety, not only as a specific subject of instruction but also as part of all instructional areas. Em-

phasis was laid in continuing staff and cooperative activities by the U. S. Office of Education to promote school shop safety programs and necessary research.

A capstone speech by Governor Howard Pyle, president of the National Safety Council, stressed safety's need to face "the challenge of change itself" in the 60's. "Accidents are directly responsible for perhaps the most wasteful single burden on our national economy today." He called on industry "to join with every agency in the safety business" and to apply to all forms of off-the-job accidents "some of the remarkable successes that you are having in industrial safety."

The Conference was presented with three aspects of the challenges wrought by the "changing world": the changing nature of work itself; the changing nature of our work force; and the "unchanging" nature of man himself. Eight workshops de-

veloped recommendations on safety standards, training, injury occurrence, environmental hazards, safety leadership, accident investigation, and health and safety communication. Specific recommendations will be presented elsewhere in the NEWS.

A representative of industry outlined industry's safety expectations from school: graduates with good safety attitudes, who know safety is a job requirement, have good school safety records, know self-discipline, and have had safety integrated into all phases of student activities.

Labor representatives urged safety clauses in all labor contracts as conditions of employment, and requested a "two-way system of communication" in industrial safety through joint safety committees.

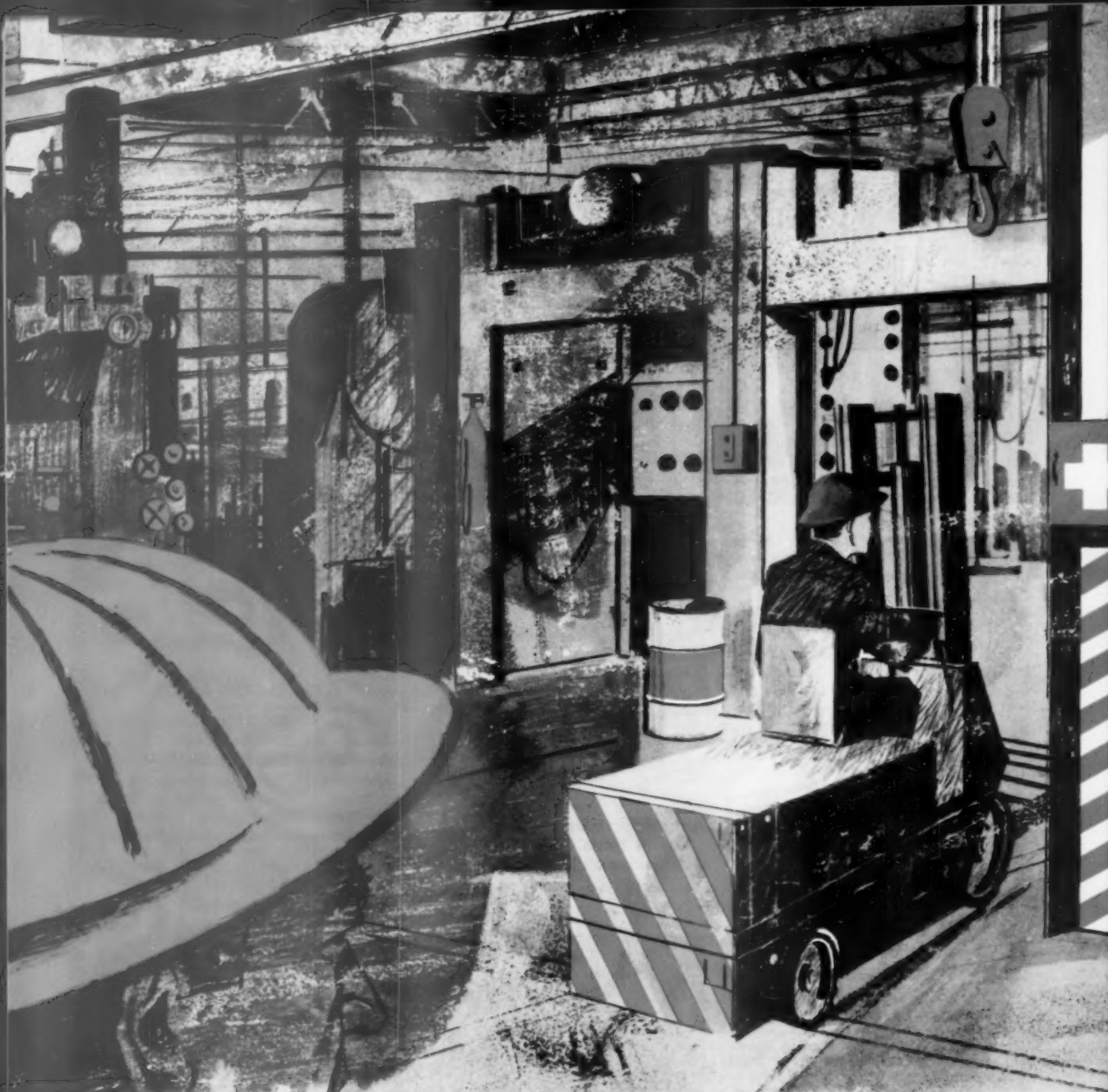
Industrial Safety. The House Appropriation Committee recommended an increased appropriation of \$395,000 for the U. S. Bureau of Mines for health and safety, including employment of 35 additional mine inspectors.

With these, according to the com-

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THE MONTH IN WASHINGTON

- AEC issues reports on Civilian Power Reactor Program, devoting attention to reactor safety, including hazardous chemical reactions.
- Secretary of Health, Education and Welfare urges legislation to place federal air pollution control program on permanent basis and to provide authority for public hearings by PHS on air pollution problems of more than local significance.
- First in series of regulations to attack airport noise problem announced by FAA regarding Los Angeles airport. Similar rules promised for New York and Washington, D.C., in near future.
- President proclaims week beginning July 3 as National Safe Boating Week. Urges year-long safe boating practices and courtesy.
- Secretary of Labor issues Safety and Health Regulations in final form for ship repairing and longshoring, under Longshoremen's and Harbor Workers' Compensation Act.



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Plant, Metal Stamping Div.

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tion Processing Dept., Richland,

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Plant.

Hughes Aircraft Co., Field Service

& Support Div., International Airport

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Mobile Oil Co., Beaumont Refinery,

Beaumont, Tex.

Monsanto Chemical Co., Texas

City, Tex., Plant.

North American Aviation, Inc.,

Rocketdyne Div., Canoga Park, Calif.

The Port of New York Authority,

Police.

Texaco Inc. (2): Refining Dept.,

Eagle Point Works; Refining Dept.,

Port Arthur Package Div.

United States Rubber Co., Kings-

bury Ordnance Plant, La Porte, Ind.

United States Steel Corp. (2): Pitts-

burg Works, Columbia-Geneva Steel

Div.; National Tube Div., Lorain,

Ohio.

Western Electric Co., Inc. (6):

Columbus, Ohio, Plant; Indianapolis,

Ind., Works; North Carolina Works,

Winston-Salem, N. C.; Allentown, Pa.,

Works; Merrimack Valley Works,

North Andover, Mass.; North Caro-

lina Works, Greensboro, N. C.

Westinghouse Electric Corp., Bloom-

field Works, Lamp Div.

AWARD OF MERIT

Aero Supply Manufacturing Co.,

Inc., Corry Div., Corry, Pa.

Allegheny Ludlum Steel Corp., West

Leechburg Works, Leechburg, Pa.

Allied Chemical Co., Solvay Proc-

ess Div., Detroit Plant.

Aluminum Company of America

—To page 92

TYPES OF AWARDS

FOUR TYPES of awards are given by the National Safety Council to members in recognition of outstanding achievement in accident prevention.

1. Award of Honor

Available to (a) units which complete 3,000,000 man-hours without a disabling injury, and (b) units whose records, though not perfect, meet exacting standards. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency and severity rates.

2. Award of Merit

Has similar but less exacting requirements. Minimum number of man-hours is 1,000,000.

3. Certificate of Commendation

For injury-free records covering one or more calendar years and totaling 200,000 to 1,000,000 man-hours.

4. President's Letter

For injury-free record covering one or more calendar years and totaling less than 200,000 man-hours.

Details of eligibility requirements may be obtained by writing to Statistics Division, National Safety Council.



FOURTEENTH AWARD OF HONOR FOR GENERAL MOTORS

GM President John F. Gordon (left) receives the National Safety Council's top award from Howard Pyle, Council president. In the center is Kenneth S. Hedges, GM safety director who heads the company-wide safety program.

Famous last words...

If I've told you once...



I've told you
TWICE!

I've told you
TWICE!



We need another
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**Accidents are no laughing matter—
stop them before they happen**



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Play it safe in your plant with accident-prevention signs. All Stonehouse Signs are made of enduring, tested materials and designed in accordance with American Standard Specifications. MAIL COUPON TODAY FOR FREE, FULL-COLOR, 64-PAGE CATALOG.

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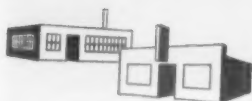
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SMALL BUSINESS and ASSOCIATIONS

By **RAYMOND C. ELLIS, JR.,** and **JOHN T. CURRY**

Small Business Program Staff, National Safety Council

Training—A Guide to Safety

The Small Business and Associations Division of the Council has recently received several reports on cooperative efforts to provide safety training. Some training has been provided through local safety councils and other training has been developed through extension programs of universities.

Hedie S. Kuhn, M.D., reported on the fine safety workshop that was conducted in the latter part of 1959 by the Hammond Safety Council, a division of the Chamber of Commerce of Hammond, Ind.

The opening session included a film on fire prevention followed by a discussion under the direction of Assistant Fire Marshal Edward Kaminsky of Standard Oil of Indiana.

Films on artificial respiration were obtained from the Walter Reed Hospital, Washington, D.C. These were included in the second presentation at the workshop.

A frank discussion of the problems of insurance in small plants helped the management of the smaller organization to gain insight on the relationship of accident experience to insurance costs. Dr. Kuhn concluded the presentation with slides on eye protection.

The report of another group venture in safety training is provided in another article on this page, "Loggers on the Campus," plus an item emphasizing the need for training of the new or transferred employee.

Loggers on Campus

Early this year a group of 90 owners, operators, and key supervisors of logging firms in the state of Washington assembled for a two-day workshop session held on campus at the University of Washington

in Seattle. The purpose of this safety institute was to bring together operators, particularly small logging operators, for a thoroughgoing, up-to-the-minute discussion of modern techniques of accident prevention in the logging industry.

It was designed as a two-day management safety institute at the small businessman's level. It afforded a medium of exchange for discussion of the current injury cost problem in the industry, public, and community relations as it ties in with accident prevention, and the relationship of safety and production methods. Visual aids were used to bring out accident causes and cures in logging operations, and finally a session was devoted to the problems of organization for safety regardless of the size of the company involved.

Certificates of completion of the institute work were presented to the delegates by Dean Gordon D. Marckworth of the College of Forestry.

According to the planners, this first institute was an outstanding success. Plans are being made to strengthen and continue this two-day meeting on an annual basis.

Don't Overlook Indoctrination

At the March meeting of the Industrial Safety Club of the Manufacturers' Association of Montgomery County, Norristown, Pa., safety training was given special consideration. Allen B. Brown, plant safety consultant for the Atlantic Refining Company, Philadelphia, talked on the subject, "Safety Indoctrination of New and Transferred Employees." This theme is of particular importance to the small business organization as it is frequently necessary that one employee perform a variety of duties. All too often the shift is accomplished without ade-

quately preparing the employee.

A study of your accident experience will show that a significant percentage of the injured persons are new or transferred employees according to this presentation. One recent study of 26 accident reports, for example, indicated that 14 of the 26 reports were for people who had been on the job for less than one year.

Such a program should provide specific safety training within the framework of the job-instruction-training approach. Explain and demonstrate. Then provide opportunity for the employee to explain and demonstrate that he actually understands the safe performance of the job assignment. Review and follow through on this training on a regular schedule so you are assured the employee fully understands and continues to practice the safe way of doing the job.

Associations Award Applications Mailed

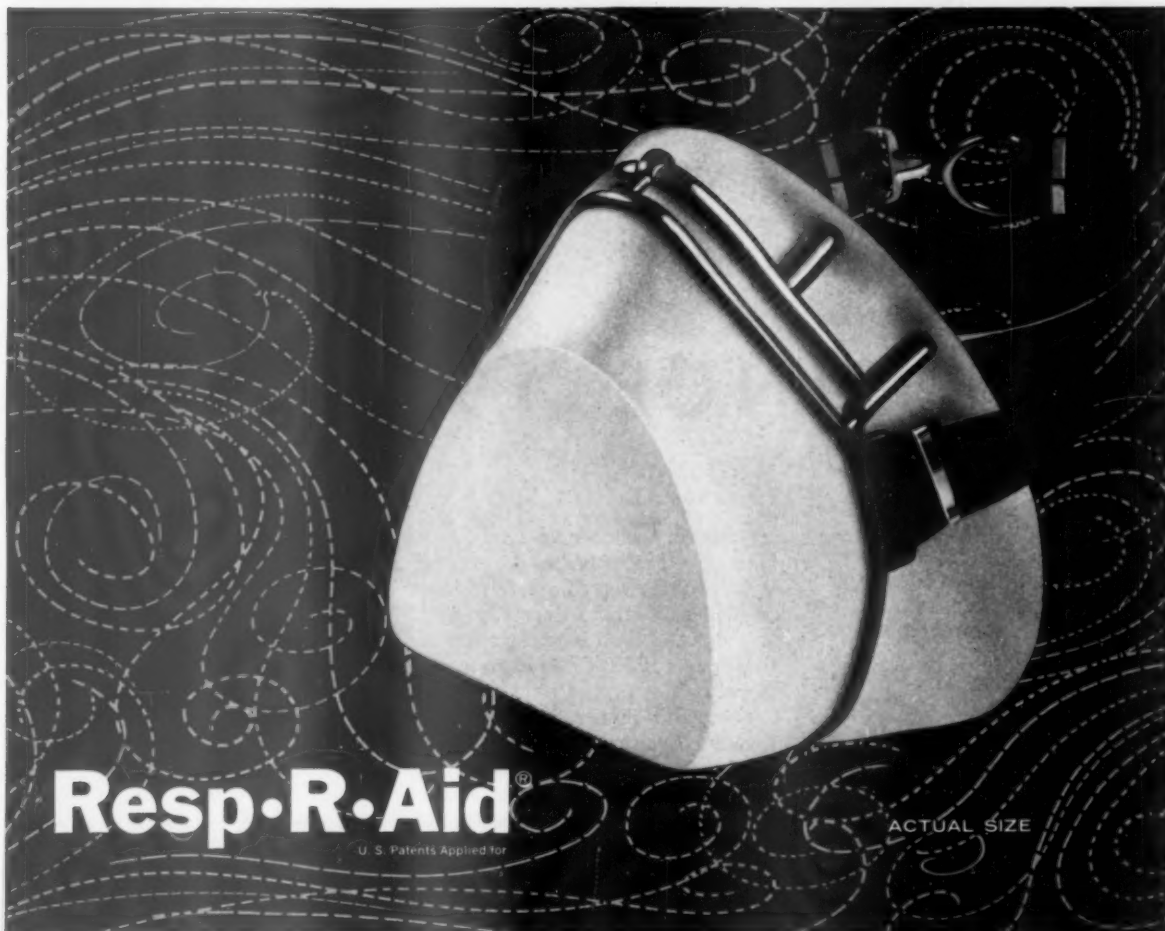
A March mailing of application forms and award information was made to all associations affiliated with the Small Business and Associations Division. If your association has not received this information and has a successful safety program in operation, write for the application. Two major changes have been made in the contest rules. It will now be possible for an association to compete even though it is not an association member of the Council. Professional safety associations will no longer be permitted to participate.

The earlier mailing of the application is the result of a recent decision to make future presentations of National Safety Council Association Awards at the annual meeting of the

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(Fiction)

THE DIARY OF A SAFETY ENGINEER

By BILL ANDREWS

Announcement of a reunion of the Class of '35 starts our Safety Engineer (and his wife) thinking about what's happened to safety men and safety work in 25 years

SINCE 1935

April 6, 1960

WAITING FOR ME at home tonight was an invitation to a banquet to be held next June during Commencement Week at Tech. The banquet will be an observance of the 25th anniversary of the Class of '35—my class.

Looking over the program, I discover that '35 is a pretty distinguished class. A cabinet member will make the main address at the banquet—I remember him only as a rather inept guy in a chemistry course in my sophomore year. Another classmate is now a big wheel in the Air Force missile program, and he is supposed to lecture us on the engineering of space flight. I remember him very well—a shark at math and a fair-to-middling cross-country runner, but still a gawky country kid almost dying of loneliness for some windblown crossroads on the Dakota prairie.

The list of committeemen and class officers reads like a roster of topflight technical men and business executives. Yes, the Class of '35 seems to have prospered.

It wasn't always so. We were a scared class when we graduated. I don't suppose more than 10 per cent of us had jobs lined up before commencement. A lot of the men tramped the streets for months before getting work. The young gradu-

ate engineer who could land some kind of junior technical job on the WPA or PWA was considered lucky. A good many had to settle for pick and shovel jobs. I suppose some of them never did get into engineering work.

Over after-dinner coffee, I mentioned to Sue that I thought I would go to Tech for commencement. "Talent-hunting again?" she asked. I said, "No," and went on to explain about the class anniversary.

She said she thought it would be a good idea and that maybe she'd go along. "That is, if you want me to," she said. Then she reflected a moment and said, "How long after graduation did you get your first safety job?"

"Just a month," I replied. "That was the job at Monarch. Junior safety engineer, I was. And, lady, I mean *junior*! The head of the safety department just about ran me ragged."

"Yes, dear," Sue interrupted, "you've told me that story. But I was just thinking. If this is the 25th anniversary of your class, this is also your 25th anniversary of your entrance into safety work. I think that's more important than the class reunion."

My oldest child had been listening in. "So do I, Pop," he said. "Tell us about how it was in the old days."

I took a brief time out to

straighten my son's chronology and to make it clear to him that Monarch in 1935 had not been powered by a water wheel, that it had electric lights and even some pretty impressive automatic machinery.

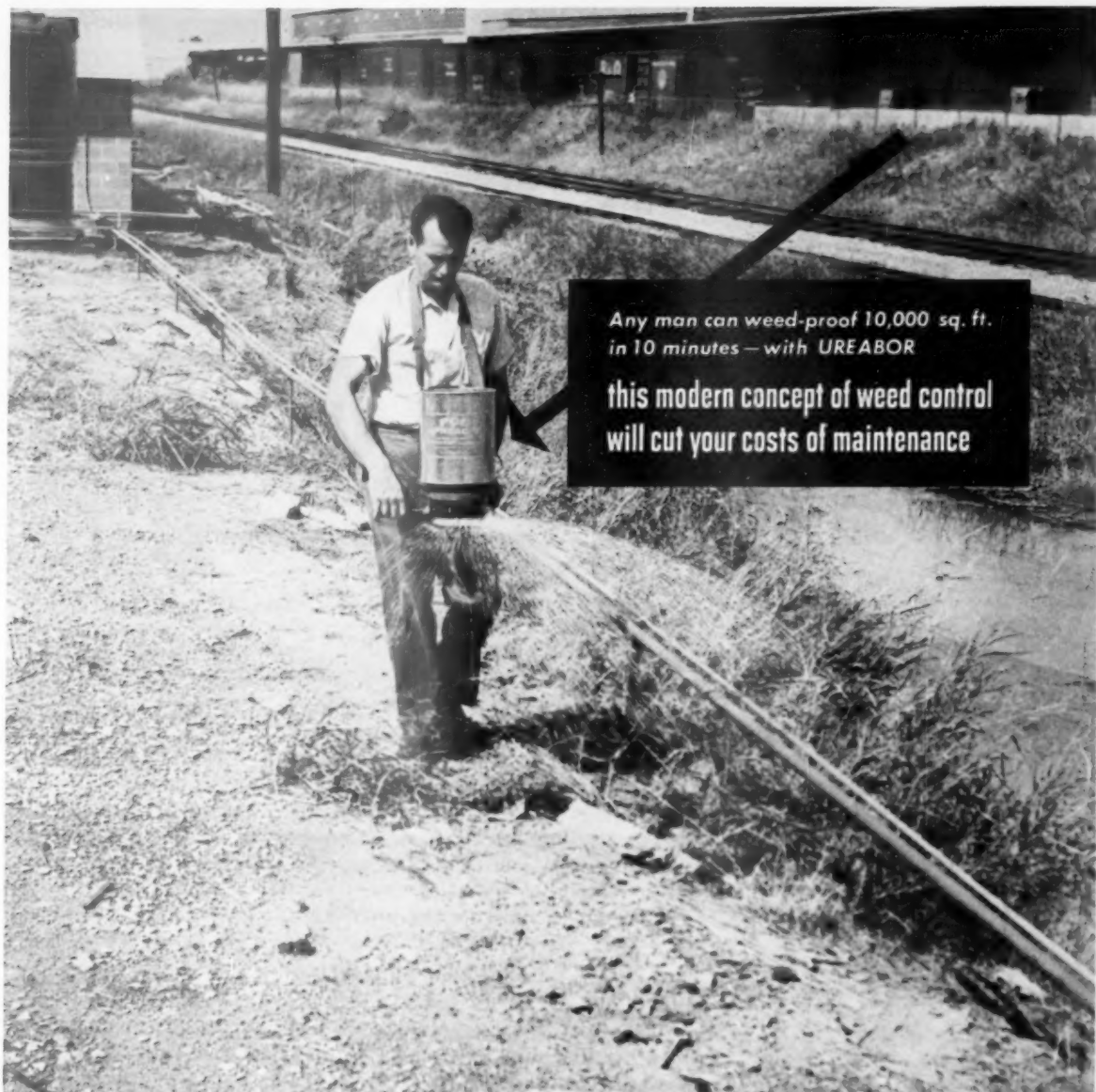
I think he was a little disappointed. And he promptly lost interest, heading upstairs to work on a science project in electronics, which, I admit, would have been beyond the capacity of any member of my class on graduation day. And my son is 10!

Sue picked up the idea again, saying, "What has happened to the safety engineering profession in that quarter century? Is it really very different from what it was? Or is it pretty much a matter of doing the same things and trying to do them better?"

I found those questions hard to answer. Ever since January I've been breaking in a new assistant, teaching him the things he needs to know to do the kind of elementary safety work that my old boss at Monarch taught me.

There is a lot of my teaching borrowed directly from my first boss. There is the insistence on endlessly driving against bad house-keeping with inspections, inspections, and more inspections. There is a whole set of obvious things—eye protection, machine-guarding,

—To page 86



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... And he went up, and lay upon the child, and put his mouth upon his mouth, and his eyes upon his eyes, and his hands upon his hands; and he stretched himself upon him; and the flesh of the child waxed warm."

II Kings Chap. 4 Verse 34

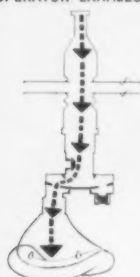


**a new concept for
safer, more effective
"manual" resuscitation...**



**mouth-to-mouth resuscitation
without the objection
of intimate contact**

OPERATOR EXHALES OPERATOR INHALES



VICTIM IS
INFLATED



VICTIM EXHALES BY
PASSIVE RECOIL

the emergency threesome



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or write for Bulletin M-108

This Biblical quotation is the first known reference to mouth-to-mouth resuscitation. In recent years, studies have revealed that mouth-to-mouth breathing is far superior to all manual resuscitation methods in ensuring ample pulmonary ventilation.* The National Academy of Sciences—National Research Council has recommended mouth-to-mouth breathing for emergency resuscitation, and this recommendation has been accepted by the American National Red Cross. The required intimate contact in mouth-to-mouth resuscitation has made this method objectionable for aesthetic and sanitary reasons.

Globe's revolutionary new M/M Mouth-to-Mask Resuscitator eliminates this objectionable intimate contact and makes this resuscitation method easier and more effective for victims of any age. Only with the Globe M/M Mouth-to-Mask Resuscitator is the operator completely protected against possible infection from the victim.

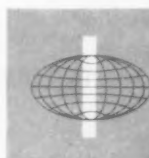
The M/M Mouth-to-Mask is the only resuscitator with the unique Seeler valve, designed by Henry Seeler, well-known aero medical scientist. This valve permits passage of air only from the rescuer to the victim. The victim's exhaled air is vented to the outside. The first air which the victim receives in each breathing cycle contains the full oxygen content (21%) of the surrounding air. This is the air which fills the breathing tube of the resuscitator when the operator inhales.

When an asphyxial emergency strikes, **YOU MUST BE READY**. Seconds count, if resuscitation is to be successful. With the M/M Mouth-to-Mask Resuscitator, life-saving resuscitation can be started immediately by anyone at the scene. **BE READY...** with low-cost M/M Mouth-to-Mask Resuscitators strategically located throughout your plant. Anyone can be taught to operate this new resuscitator.

The Globe M/M Mouth-to-Mask Resuscitator Kit is available in either the nylon fabric carrying case or the rugged fibre case built for rough, tough handling on emergency vehicles and line trucks.

*Reference: Journal of the American Medical Association, May 17, 1958, Vol. 167.

CIVIL DEFENSE APPROVED: The Globe M/M Mouth-to-Mask Resuscitator has been approved for purchase under the Federal Contributions Program. Office of Civil and Defense Mobilization (OCDM). Standard Item Specification No. CD VIII-177.



GLOBE



Freedom With Safety

*a challenge
of the 60's*

By **THE HONORABLE RICHARD M. NIXON**
Vice-President of the United States

I APPRECIATE the opportunity to be here personally in my capacity as the Vice-President representing the President.

We know you are unusual so far as groups of people who come to Washington on business affecting the government even indirectly. We realize this is an unsubsidized conference, that you come either paying your own way, or your various organizations are taking care of this matter. This certainly indicates your interest and the vital concern which the direct organizations you represent have in this whole problem of industrial safety.

It might be constructive to relate the contributions you are making to the whole posture of the United States economy and to this problem we have heard so much about in recent months—particularly since Mr. Khrushchev's visit to the United States—of how we maintain our competitive position in the world economically with the totalitarian countries.

I don't need to tell you the threat

An address presented before The President's Conference on Occupational Safety in Washington, D. C., March 1, 1960.

with which we are confronted is a real one. Any of you who saw Mr. Khrushchev on his visit here will remember how confident he seemed in the superiority of his own system, and how he laid down the challenge to us in every city he visited.

He said that, while we were ahead now, they were moving faster than we were economically, and that they were going to catch us and pass us. He even went so far as to say that their system was so far superior that, once they had passed us, we would have to turn their way to avoid staying in the second position.

Few Americans, if any, were convinced by what he said. I am certain all of us recognized that he and the people over whom he has domination have one advantage anyone running behind in a race has: he has the stimulus of trying to catch the front runner.

From having visited the Soviet Union, I can say one thing that does impress you is the determination not only of the hierarchy, in some way infused even among great segments of the working force, but the competitive spirit which is theirs. We must never underestimate the

strength and vitality of the challenge.

But, in pointing out the strengths they have and in examining in a free country the weaknesses we have, we must never lose confidence in our system and our own principles.

What does this have to do with industrial safety? Let me put it this way.

Today, economically, the United States outproduces the Soviet Union (taking the GNP figures as one standard) by more than two to one, and we are ahead of them in every major area of production. And we can stay ahead—provided we avoid what I would describe as any unnecessary inefficiency or negligence in our economy.

This means efficiency on the part of management, of labor, of government, where government has any relationship to the economy. And it means all aspects of the economy. I don't need to tell you that industrial safety is an extremely important aspect of the total problem of productivity and efficiency of an economy.

For example, I was impressed and surprised by statistics I read that

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Get Set for Bigger Loads

Bigger and bigger generators and motors for power-hungry industry are bringing changes in handling equipment, techniques, and training

By MYRON L. MILLER

Supervising Safety Engineer, East Pittsburgh Works, Westinghouse Electric Corp.

TWENTY YEARS AGO, the National Safety Council reported 26 per cent of all occupational accidents resulted from handling objects. There was a period during the past 20 years when this figure dropped to 22 per cent. The 1958 report set the national figure for accidents from handling objects at 24.4 per cent. One-fourth of all occupational accidents in this country involve material handling.

How important is safe handling in the heavy electrical industry?

In answering, may I use our own experience? Westinghouse East Pittsburgh Works is the home of our large water wheel generator and turbo-generator building operation, each unit capable of producing enough electrical energy to supply the power needs of a large city.

In addition, we build large steel mill motors and some of the largest industrial motors known. To handle these gigantic pieces of equipment we require crane facilities up to 400 tons capacity and specially designed super-sized freight cars to transport the units to their destinations.

Our engineers are planning in terms of generators two to three times the capacity of machines now being built, which are already five

to eight times the capacity of apparatus now in general use.

In many locations we are already outgrowing our handling facilities. Crane runways have had to be reinforced. Heavier duty hoist and handling equipment is being installed. New facilities are being built to meet the manufacturing demands of today.

Handling techniques must keep pace with handling facilities. More alert foremen, better trained workmen, with improved safety performance, form the challenge of the 60's. A brief look at our accident experience during the 50's will help us to answer the question, "How important is safe handling in the heavy electrical industry?"

Typical of the loads the heavy electrical industry must handle is this 500,000-lb. turbo-generator. The special railroad car is 125 feet between couplers, has 32 wheels and weighs 500,000 lbs.

TABLE I
General analysis of 212 cases

1. Unsafe conditions in 103 cases (49 per cent of total)	Per cent
Hazardous arrangement	31
Defective agencies	11
Unsafe dress	5
Improperly guarded	2
2. Unsafe acts in 207 cases (98 per cent of total)	
Taking unsafe position	49
Unsafe loading	17
Using unsafe equipment or equipment unsafely	12
Working at unsafe speeds	8
Failure to block	7
Failure to use protective equipment	5
3. Experience on the job	
Under 1 year	42
1 to 5 years	28
6 to 10 years	13
11 to 20 years	10
Over 20 years	7
4. Personal factors	
Inattention	53
Lack of skill or knowledge	36
No unsafe factor	6
Body defect	5

In the 10-year period 1949-58 we experienced 932 disabling injuries. Of these, 212 cases, or 23 per cent of the total, involved workmen whose occupations were concerned primarily with handling material.

In studying the 720 so-called non-material-handling occupation



Periodic training sessions with examinations determine the workman's understanding and his ability to use the information.

accidents, we made an interesting observation. Of these accidents, 46 per cent involved some handling or manipulation of objects. If we were to include these as material-handling accidents, the total would be not 23 per cent but an alarming 58 per cent.

Analysis of the facts presents a strong argument for mechanical feeds for power presses, machine tools, metal-joining operations, and processing.

Let's take a closer look at the 212 material-handling accidents to see what operations were involved, and to what extent. See Table 1.

We have concluded generally that handling facilities have had a bearing on our accident experience. For this reason we are expanding and

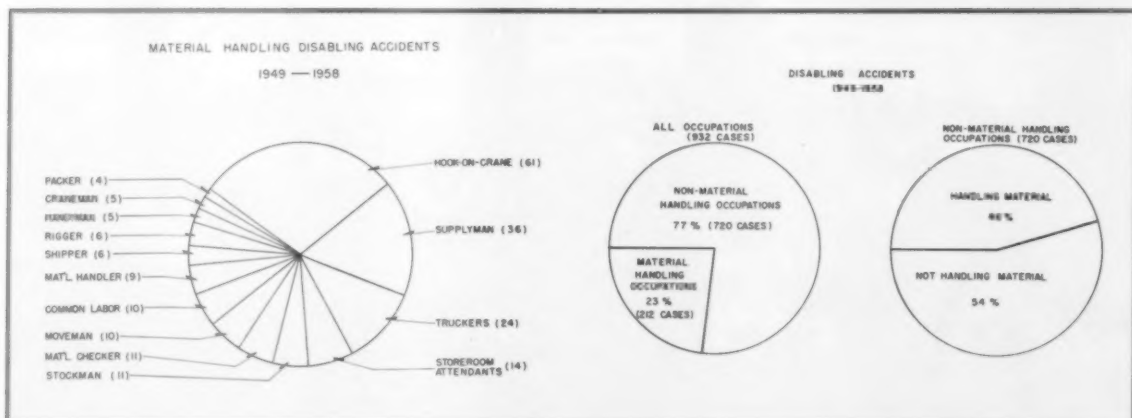
improving our facilities. But care taken and skill displayed in using these facilities have had a much greater influence. Our experience shows a marked need to control the human factor, with emphasis on training.

Let us examine one material-handling occupation as an example.

Hook-on-crane, often referred to as crane follower, floor man, or hook-on, is an important job in our operation. We employ about 200 hook-on men. In the past 10 years, 61 of these men have been involved in disabling injuries.

Hook-on crane accidents generally are serious because of the nature of the work. Heavy loads overhead present many hazards.

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**EXCLUSIVE
REPORT**

A NATIONAL SAFETY COUNCIL MEMBER SURVEY

Chemical Industry Gives Formula for Safety

From training to enforcement, from priorities to price systems,
NSC's Chemical Section gives its concept of safety's role at work



This article is based on information developed by the Inventory of Occupational Accident Prevention Activities, sponsored by the Member Opinion Survey Committee of the National Safety Council's Industrial Conference.

Paul Schleich of the Industrial Department staff is conducting the inventory among 15 of the Council's industrial sections. Questionnaires for this particular survey were sent to members of the NSC Chemical Section having work forces ranging from 19 to 90,000 employees.

Reporting plants make a variety of products, extending from commercial explosives, paints, lacquers, pharmaceuticals, and photographic supplies to atomic energy, pesticides, fertilizers, cosmetics and fiber conduit pipe.

MORE THAN half of the reporting plants maintain some form of safety training for supervisors, offering from 1 to 110 class-hours for 5 to 542 students in each course.

Three-fifths of respondent units clear safety suggestions through one person; and 91 per cent send safety publications to supervisors.

These facts stem from a survey of NSC Chemical Section members in 24 states, the District of Columbia, and Canada. The inventory deals with practices in supervision, policies, and safety committees.

Questionnaires concern training and education, communications, reporting, management, enforcement, labor's role, organization, priority, and price systems.

Reporting. Management is deeply concerned with safety. And 92 per cent of the responding plants require a special report on the company's accident record (usually monthly) to be prepared for top management. The firm's president or vice-president commonly reviews these reports, but in a tenth of the plants replying the plant manager does the reviewing.

Top management in two-thirds of the plants follow up on departments or units with poor accident records. They do this chiefly by personal contact with department heads and supervisors.

However, secondary choices include letters and memos to these same individuals, by investigating and advising, safety meetings, referral to the safety department, more frequent inspections, and study of work procedures.

Usually, those responsible for fol-

low-up of safety recommendations include the safety department, supervisor or foreman, and the plant superintendent, among others.

Communication. Top management takes part in the promotion of safety through various methods: verbal and written memos; letters to the family at home; attending, presiding, and taking an active part in safety meetings. This level of supervision also emphasizes safety in presenting awards, carrying out recommendations, and providing financial support.

And in more than three-fourths of plants reporting, management has issued a written statement or policy on safety, charging safety as a job responsibility of all supervisors.

Safety organization. The survey determined that three-quarters of the plants reporting maintain safety committees as part of their company's safety program. Joint supervisor-employee committees are found the more frequently, followed by the top management policy committee, inspection committee, committee of supervisors or foremen, separate superintendent's or employees' committees.

The leader or chairman of the top management policy committee is generally a vice-president, general manager, plant manager, or the safety director. Chairmen of other committees are usually the plant manager, plant superintendent or the safety director. These chairman-

ships are frequently rotated among committee members.

Top management policy committees and the committee of superintendents rarely rotate their members. Rotation in other committees ranges from monthly to yearly. A common practice is to rotate one member monthly.

Frequency of safety committee meetings varies from weekly to quarterly, depending on the kind of committee. However, 73 per cent of the committees meet monthly from 15 minutes to four hours, averaging about 1½ hours. One plant's housekeeping committee meets monthly for eight hours.

Fifteen per cent of plants *not* having specific safety committees have other committees with safety as part of their responsibilities. These groups concern themselves with management, operations, process, housekeeping, vehicle, fire control, and emergency activities. Normally they have from 4 to 15 members and meet weekly or monthly.

In the majority of plants the safety director prepares the agenda for the committee meeting and acts as secretary. The agenda is distributed in advance about 40 per cent of the time. All shifts are represented, if possible, and minutes are kept.

These get-togethers are held on company time. Members are not paid extra compensation, except when hourly-paid personnel attend meetings on other shifts than theirs.

Generally, inspection, investiga-

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ELEMENTS OF SAFETY PROGRAMS

(Per cent of companies reporting)

	Percent
Safety committees	78
Safety publications sent to supervision	91
Safety record included in superintendent's rating	61
Management issues statement or policy on safety	77
Safety is job responsibility of all supervisors	75
Safety rules and regulations	79
Union contracts provide for safety cooperation	54
Management follows up poor safety records	64
Safety suggestions clear through one person	61
Safety recommendations priority rated	46
Time limit on safety suggestions	27
Periodic reports on safety recommendation status	65
Safety committee can initiate work orders	26
Safety representative attends all committee meetings	51

ISOCYANATES (TDI and MDI)

*Copies of this data sheet will be
available for order within 30 days*

Properties

1. Isocyanates are a class of research and industrial chemicals. This data sheet is confined to two organic isocyanates which have entered commercial usage within the past few years: tolylene diisocyanate, a liquid, for which the common name is toluene diisocyanate or simply TDI; and methylene bis (4-phenylisocyanate), a solid known simply as MDI.

2. TDI is produced commercially in two isomeric forms, 2,4 and 2,6; and MDI in one form. Trade names and chemical formulas of the available materials are:

TDI

$\text{C}_6\text{H}_3(\text{NCO})_2\text{CH}_3$
Hylene T: 100% 2,4 isomer
Hylene TM: 80% 2,4; 20% 2,6
Hylene TM: 65% 2,4; 35% 2,6
Nacconate 100: 100% 2,4
Nacconate 80: 80% 2,4; 20% 2,6
Nacconate 65: 65% 2,4; 35% 2,6
Mondur TDS: 100% 2,4
Mondur TD80: 80% 2,4; 20% 2,6
Mondur TDL: 65% 2,4; 35% 2,6

MDI

$\text{NCO} \cdot \text{C}_6\text{H}_4 \cdot \text{CH}_2 \cdot \text{C}_6\text{H}_4 \cdot \text{NCO}$
Hylene M: 91% MDI, 9% inert
Hylene M50: 50% MDI, 50%
orthodichloro-benzene
Nacconate 300
Mondur M

This data sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This data sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

3. Physical properties of TDI and MDI are listed in Table I.

4. Isocyanates are used chiefly in polyurethane rubber-like polymers (foams, castings, and coatings) and as adhesives.

Shipping Regulations

5. There is no Interstate Commerce Commission classification for TDI or MDI. Shipment is made in drums, tank cars, and tank trucks. During winter months some suppliers use heated cars to prevent freezing. The railroad shipping classification is "Chemicals,

TABLE I. PHYSICAL PROPERTIES OF SELECTED ISOCYANATES

	TDI	MDI
Specific gravity	1.22 @ 25 C (77 F)	1.23
Relative vapor density (air=1)	6.0	8.6
Boiling point	250 C (482 F) @ 760 mm Hg. 117 C (242.6 F) @ 10 mm Hg.	172 C (341.6 F) @ 1 mm 187 C (368.6 F) @ 2 mm
Freezing point	20 to 23 C (69.8 to 73.4 F) (2,4 isomer) 14±1 C (80%-20% mixture) 10±1 C (65%-35% mixture)	37 C (98.6 F) (commercial) 39 C (102.2 F) (purified)
Vapor pressure	0.05 mm Hg. at 25 C (77 F)	—
Odor threshold	above 0.4 ppm	—
Solubility	Soluble in aromatic hydrocarbons, nitrobenzene, acetone, ethers, and esters	Soluble in aromatic hydrocarbons, nitrobenzene, acetone, ethers, and esters

NOIBN"; the truck classification, "Chemicals, NOI."

Storage and Handling

6. Isocyanates should be stored preferably at a temperature between 75 F and 100 F. Freezing will not harm either TDI or MDI, but if it does occur, the material must be completely thawed and then thoroughly mixed before it is used, to prevent fractional crystallization or stratification.

7. Water or acid when mixed with an isocyanate will generate carbon dioxide, a potential cause of violent rupture of closed vessels. Therefore, moisture must never be permitted to enter containers of isocyanates. Transfer of isocyanates from containers should be made through closed systems designed to prevent entrance of even atmospheric moisture, drum heads must be thoroughly dried before bungs are opened, and pipelines must be kept free of moisture.

8. Care should be taken to prevent contact between isocyanates and strong alkali, such as caustic soda, which could cause uncontrollable polymerizations.

Health Hazards

9. Oral toxicity for both TDI and MDI is low.

10. The acute inhalation toxicity of TDI is severe. Atmospheric concentrations immediately hazardous to life are not known, but Zapp has produced fatalities in rats at 600 ppm for six hours of exposure.*

11. Use of a solvent or dispersion medium for an isocyanate (for example, orthodichlorobenzene) may also create an acute inhalation hazard.

12. Chronic exposure of animals to atmospheres containing 1 to 2 ppm of TDI results in bronchial irritation. Although human beings have experienced asthma-like attacks from chronic exposure to low concentrations, individual susceptibility varies widely. Also, there is some indication that sensitization may occur.

*Zapp, J. A., Jr., *AMA Archives of Industrial Health*, 15:324 (1957).

13. A maximum level of 0.1 ppm of TDI has been recommended for prolonged human exposures. This amount is below the level of (0.4 ppm) of odor or irritant perception for most individuals.

14. No inhalation problems are experienced with MDI, which is less volatile than TDI.

15. All work areas should be checked frequently for atmospheric concentrations of TDI.* Results should be evaluated by qualified industrial hygiene personnel to assure that control measures are adequate.

16. Primary irritation of the skin may occur from contact with either MDI or TDI, and sensitization may result from repeated contacts. Direct entry of either TDI or MDI into the eyes may cause injury.

Personal Protective Equipment

17. Respiratory protective equipment should be worn for clean-up of spills, repair of contaminated equipment, and similar emergency exposures to hazardous atmospheric concentrations of TDI. U. S. Bureau of Mines approved organic vapor gas masks can furnish protection only to a maximum of 2 per cent concentration. Where the concentration is not known or is higher than 2 per cent, either self-contained air or oxygen breathing equipment specifically approved by the U. S. Bureau of Mines for given lengths of exposure . . . or . . . hose masks with blowers should be worn.

18. Face shields, acid-type safety goggles, or safety glasses with unperforated side shields should be worn by all personnel when handling isocyanates.

19. Rubberized or plastic-covered gloves, plastic or rubber aprons, and plastic or rubber sleeves should also be worn. Contaminated garments should be removed promptly and should not be reused until they have been decontaminated.

*The methods for determining atmospheric concentrations of TDI can be adapted for use with other isocyanates which present inhalation hazards.

Ventilation

20. All operations in which TDI is used should be closed wherever possible. Total enclosure, accompanied by good general ventilation, is usually sufficient to keep atmospheric concentration at a safe level.

21. If total enclosure of processes is impractical for manufacturing reasons, then local exhaust of processes using TDI is mandatory. All mixing booths should have a face velocity of 100 linear feet per minute. Drying tunnels should have a face velocity of 200 lfpm. Requirements for mold opening areas and for spray and paint areas will vary with the individual operation, but in all cases local exhaust should be sufficient to maintain atmospheric concentrations of TDI below 0.1 ppm at all times.

22. Recirculation of exhausted air from these processes is hazardous unless a suitable air scrubbing medium for complete removal of TDI can be used.

23. Areas in which polyurethane foam products are inspected or stored should be supplied with good general ventilation. Residual amounts of unreacted TDI may be present for a short time in the finished foam and may produce hazardous atmospheric concentrations if slices or sections are made.

24. Proper maintenance of ventilating equipment is essential to satisfactory performance. Frequent inspections should be made to assure efficiency of operation.

Fire Hazards

25. Isocyanates will burn. TDI has a flash point of 270 F while MDI has a flash point of 385 F, open cup method.

26. Isocyanate fires should be extinguished with carbon dioxide, dry chemical, or an inert gas. On large fires, water should be applied in large quantities, preferably in the form of spray. Fires in polyurethane foam products in which residual amounts of isocyanates may be present should be controlled by automatic sprinklers supplemented by water spray from large hose streams.

27. Because of the inhalation hazard of TDI, fire fighters require

the protection of approved self-contained breathing apparatus. They should also wear standard fire fighting protective clothing—helmets, firemen's coats, and boots. Rubber gloves should be worn where overhauling operations involve direct hand contact with isocyanates.

First Aid

28. Prompt removal of individuals overcome by contaminated atmospheres is essential. If breathing has stopped, artificial respiration should be started immediately. If the victim is breathing but obviously suffering from respiratory irritation, oxygen should be administered promptly by someone experienced in its administration.

29. If isocyanates have entered the eye, immediate first aid must be given. The eye must be held open and washed in a continuous stream of water for a minimum of 15 minutes. Medical attention should then be sought. Eyewashing fountains should be available in the immediate area wherever isocyanates are used.

30. If the skin becomes contaminated with isocyanates, it should be flushed immediately with water. Safety showers should be available in areas where isocyanates are used.

31. If clothing becomes contaminated, it should be removed at once, and the affected skin areas should be washed with mild soap and water. Then 30 per cent isopropyl

alcohol (rubbing alcohol) should be applied to the affected area.

32. After first aid has been given, affected individuals should be promptly referred to a physician.

Medical Examinations

33. Before an employee is assigned to isocyanate operations, he should be given a physical examination. A 14 x 17 stereoscopic chest X-ray should be included. Only employees free of respiratory pathology and history of asthma should be assigned to potential exposures.

34. An annual physical examination, including a large stereoscopic chest X-ray, should be given all exposed personnel. Anyone showing symptoms of asthma or respiratory irritation should be permanently removed from the area of operation.

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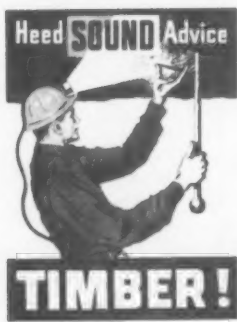
ACKNOWLEDGMENT

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BERT



**SET SAFETY POSTS
IT'S SMART!**



Campaign materials for 1960 drive against roof falls. Among them are reflecting safety signs, posters, fact sheets, and a booklet of roof fall safety tips. Stickers for miners' hard hats are also available.

1,300 Coal Mines Join Drive on Roof Falls

AS OF MARCH 1, more than 1,300 coal mines have enrolled in the 1960 national campaign to prevent injuries from roof falls in coal mines.

While most of these mines are in the United States, many mines in Canada and Alaska have enrolled, making a total that now exceeds that of the 1957-58 campaign.

The campaign began January 1 and will end December 31. Its goal is a reduction of 50 per cent or more in the frequency rate of roof fall injuries.

All underground coal mines, regardless of size or affiliation, are urged to participate in the effort. There is no charge. The only requirements are:

1. If the company operates two or more mines, each mine must be enrolled separately.
2. Each participant must agree to furnish a separate report of injuries resulting from falls off roof, rib, or face for one of the three calendar years immediately prior to 1960.
3. Each participant must furnish a report at the end of the first six months of the campaign and a report covering the last six months of the project.

The advisory committee of the campaign and the National Safety

Council have developed promotional materials based on operating facts. Immediately after enrollment, each mine receives a series of hard-hitting suggestions to arouse employee interest. Samples of materials available from the Council are also sent to enrollees.

The Council will present awards to those achieving the campaign goal and meeting other necessary requirements. Awards include: a certificate of achievement for mines, a certificate of meritorious service for local unions of the mine that receives the achievement certificate, a certificate of commendation for supervisors, and a certificate of commendation for union safety committeemen.

The campaign is jointly sponsored by the American Mining Congress, Bituminous Coal Operators Association, Coal Mining Institute of America, Coal Mining Section of the Council, Mine Inspectors Institute of America, National Coal Association, Southern Coal Producers Association, United Mine Workers of America, U. S. Bureau of Mines, coal mining publications, insurance carriers, state and provincial mining departments, and others interested in coal mining safety.



Use of roof bolts allows large areas in which modern mining machines can be maneuvered. (Photo by U. S. Bureau of Mines)



Aerial view of 25-billion-electron-volt accelerator scheduled for 1960 completion.

TAMING LIQUID HYDROGEN

Here's how they handle a liquid that boils at minus 422 F, gives off a lighter-than-air gas that heats upon expansion instead of cooling as all other gases do, and burns with an invisible flame

Liquid hydrogen bubble chamber—50-liter capacity.

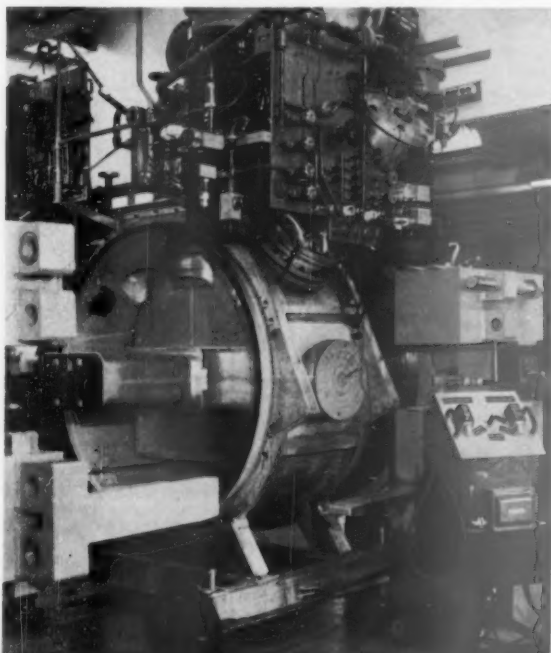
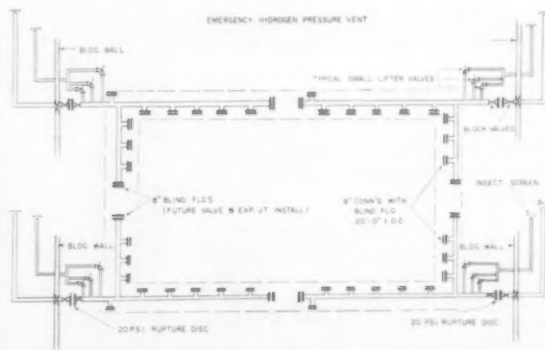
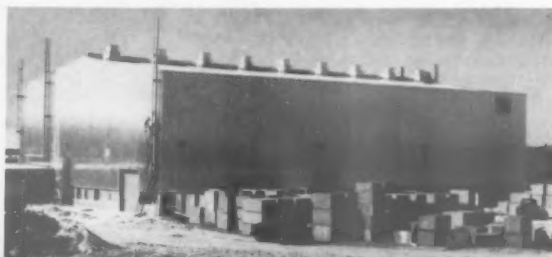


Diagram of the emergency high-pressure vent system.



Cosmotron experimental area. Note vents and fans.



By LEONARD A. BAKER, JR.,

Manager, Safety Services,
Brookhaven National Laboratory,
Upton, L.I., N. Y.

THROUGH THE TWIN weapons of basic and applied research, Brookhaven National Laboratory—a keystone in the Atomic Energy Commission efforts—is probing deeply into the nuclear sciences and related fields.

The Laboratory's facilities and staff aim chiefly at basic research, leaving to others the specific applications of knowledge gained.

A major safety problem at Brookhaven involves hydrogen protection. We use more than 20,000 cu. ft. of gaseous hydrogen each month in a variety of experimental setups, but it is the use of liquid hydrogen in high-energy research which is of particular concern.

Liquid hydrogen is manufactured at Brookhaven in a liquefaction facility capable of producing 85 liters per hour. The liquid hydrogen is utilized in bubble chambers which are experimental devices used for study of the nucleus. High-energy particles from a particle accelerator (popularly known as the atom smasher) are beamed into the bubble chamber.

The tracks of the entering particle, as well as the tracks made by the products of its collision with a liquid hydrogen nucleus, can be photographed, and events of in-

terest to physicists studied and recorded.

It is this track of bubbles, produced by ionizing radiation in the superheated liquid, which gives bubble chambers their name. It is true that other liquefied gases are used in bubble chambers. But hydrogen is particularly attractive, since its nucleus is a single elementary particle—a proton.

Bubble chambers vary in size, medium, and sponsoring group. One bubble chamber under construction has a 10x10x20-in. (50 liter) chamber. Including magnets and various other appurtenances, it weighs about 35 tons. A 20x25x80-in. (600 liter) bubble chamber with a total weight of more than 300 tons is being designed.

In addition to chambers using hydrogen, we have those containing various hydrocarbons—primarily propane—plus chambers which offer no special hazard such as helium chambers. Some bubble chambers are operated by staff experimenters. Other chambers are brought in by groups from universities and research centers.

Bubble chambers are used with the Cosmotron—a 3 billion electron-volt proton accelerator. This is a doughnut-shaped electromagnet 75 ft in diameter, which guides the protons in a circular path (150,000 miles during one second of acceleration). Then this beam is allowed to strike a target.

The Laboratory has been established as a cooperative postwar venture, recognizing need for large, expensive equipment and concentrations of scientific manpower in nuclear research.

Brookhaven is operated under contract by a private institution—Associated Universities, Inc. This nonprofit educational corporation serves as an agency through which universities, other institutions, and the government cooperate to further research and education.

One type of target is the bubble chamber. Experimenters are also looking ahead to bubble chamber use at the 25-billion-electron-volt, ½-mile-circumference Alternating Gradient Synchrotron currently being built.

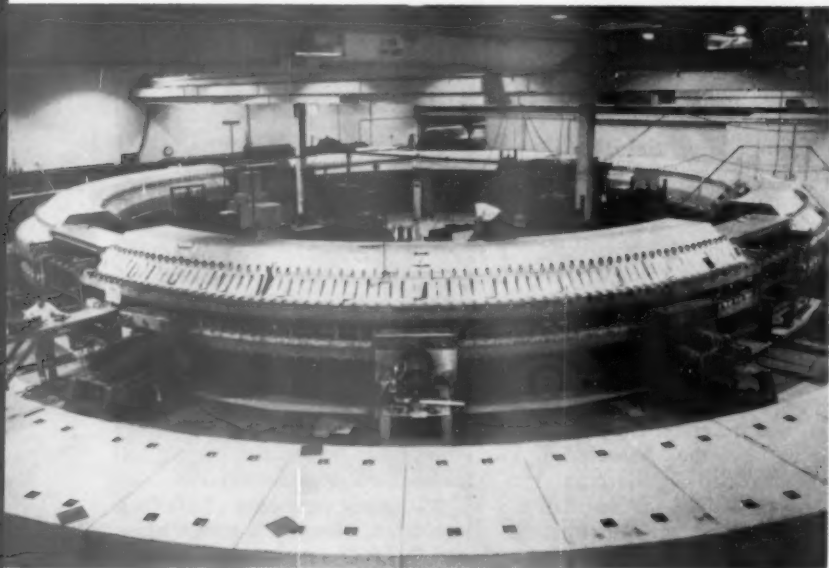
Why all the concern over liquid hydrogen? The hazards of gaseous hydrogen are considerable—wide explosive range, rapid rate of pressure rise with accompanying high explosive force, low energy input required for ignition, and other hazards.

To this we must add that liquid hydrogen boils at -422F, and vessels containing it must be continuously vented or must quickly explode from evaporation pressure alone.

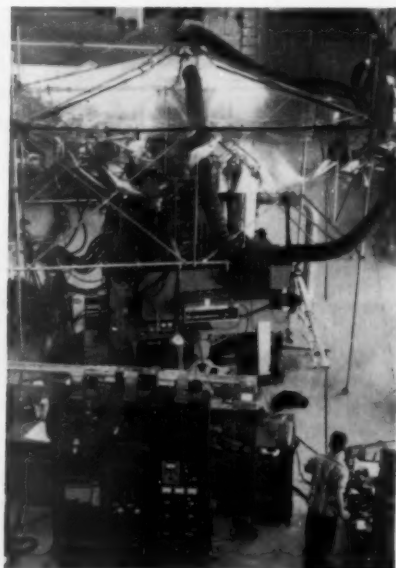
Then consider that in a vented

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Cosmotron proton accelerator.



Exhaust is taken from plastic hood.





Cleaning operations in passenger "holding room" at United Airlines Idlewild Terminal are carried out according to strict prescheduling. A revolving file of index cards spells out cleaning routines.

Operation Clean Sweep

Clean, healthful, efficient transportation facilities require planning and money on an eye-opening scale. Idlewild is a good example

TO MILLIONS of air-traveling people one airport stands out above all others as the symbol of the jet age. On the once-barren marshes of Idlewild near New York City a mosaic of marble, glass, steel and stone is taking shape as New York International Airport. Everything about Idlewild bears the stamp of tomorrow today. Even the concept of its design is different from that of any other air terminal yet built.

Instead of sharing a central terminal building, each airline has its own facility unit, distinct in shape and appearance from the others, but all part of integrated construction and landscape to be known as Terminal City—a gleaming city out of a science fiction future.

Few of the 24-hour-a-day throngs at Idlewild realize that behind the glitter and glamor of Terminal City lies a program of sanitation maintenance planned to protect the health and comfort of passengers while permitting the facility to function at top efficiency.

One of the first airlines to implement such a program at Terminal City is United Air Lines, also the first to open its new unit building and to introduce the newest of the jetliners, the DC-8. UAL's program was recently examined and reported by the Association of American Soap & Glycerine Producers, as part of the association's continuing effort to focus attention on the ways in which good cleanli-

ness practices serve the public welfare.

The Big Sweep. Sanitation maintenance in a public utility is a big job—big in size, scope, and money. Approximately 2,000 passengers will pass through the \$14.5 million UAL terminal each day when it is in full operation. (This figure does not include visitors or airline personnel.) To achieve and maintain a clean sanitary environment for such numbers means cleaning almost 200,000 sq. ft. of space, consisting of every kind of modern surface, from washrooms to baggage room.

It means spending \$2,000 a month on cleaning supplies alone and \$17,000 a month for custodial

personnel and executive supervisors responsible to United's top management. Above all, it means establishing an organized cleaning system by which the concept of preventive maintenance may be carried out.

Preventive Care. Under the system, cleaning of different areas is predetermined according to the function of those areas and the frequency of their use. Restrooms, requiring the highest degree of sanitation and subject to constant traffic, may be cleaned six times daily, while the main lobby is cleaned thoroughly at midnight and spot-cleaned at intervals during the day.

The cleaning routine in every part of the unit is spelled out in detail on cards kept in a revolving file in the office of the terminal building manager. The cards contain listings of cleaning operations for daily routine, weekly routine and monthly routine on one side; on the reverse is indicated the date a particular operation is due and the date completed.

No job or area is overlooked, from emptying ash trays to stripping floor wax. As the cards come up in sequence and each routine is accomplished, the entire terminal unit is kept in a constant state of cleanliness and good order.

Aboard the DC-8. Speed is the special pride of the jets—speed undreamt of in the piston-plane era. With such speed goes the most meticulous *mechanical* maintenance to assure safety in flight. But with the



Service from the buffet is prompt and clean. Wide, flat surfaces aid sanitation in this important food area.

jets also came a new dimension of passenger comfort and luxury in air travel—and aboard the DC-8 United sees to it that equally meticulous *sanitation* maintenance keeps the plane's interior spotless.

On completion of every through flight, as soon as the last passenger has left the ship, a skilled crew moves in to clean lounges, seats, lavatories, windows, buffet, and other areas, according to a prearranged schedule similar to that used in the terminal building.

And they've got less than two hours to do a thorough job before take-off. Cost of the DC-8 maintenance alone is nearly \$4,500 a month but UAL considers the figure bargain-rate insurance against the multimillion dollar value of the newest addition to its fleet.

Typical of the ways in which United builds in the principles of preventive maintenance is its solution to the special problems presented in cleaning the buffet area. Such difficulties are especially pressing on a plane with the time-slashing speed of the DC-8.

Here the meals are served, and here also multiple food containers and serving units can present serious difficulties to clean and efficient operation.

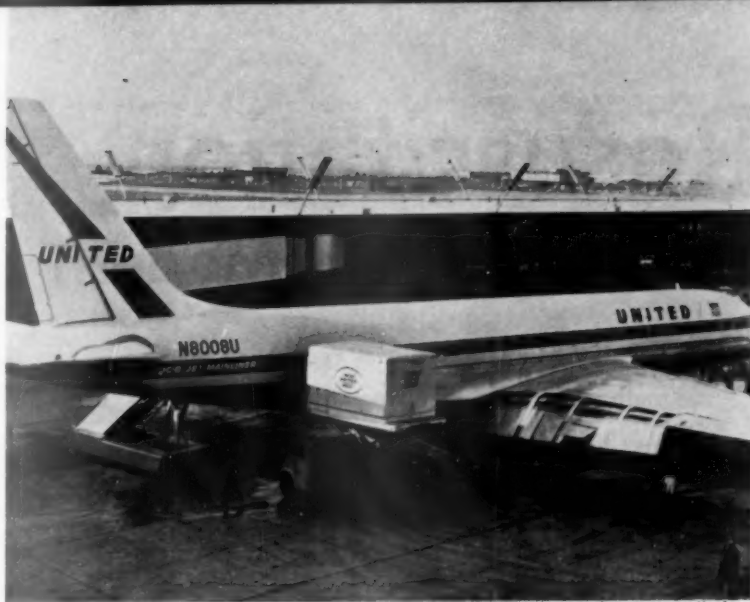
In cooperation with the plane's builders, United has designed the buffet of the DC-8 in four large self-contained units, which permit

easier and more thorough cleaning after service is done.

Another instance of preventive maintenance takes place on the field before passengers board the plane. One of the peskiest problems the airlines have faced is the inevitable spilling and leakage onto the loading platforms of oil and grease from service vehicles and gasoline tank trucks.

These oils and greases, picked up on passengers' shoes as they cross the field to the plane, can make even the most efficient interior clean-

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Loading the buffet onto a DC-8 is quick and easy. A self-contained unit installed in three minutes feeds passengers in flight.



Spotless lavatory on DC-8 is thoroughly sanitized as part of the standardized overhauling plane receives at end of flight.

Resuscitation

... Ancient and Modern

An evaluation of artificial respiration
methods for industrial emergencies

By HENRY E. SWANN, JR., Ph.D

Research Associate, Department of Occupational Health, Graduate School of Public Health, University of Pittsburgh, Pa.

IN VIEW OF recent rapid developments in artificial respiration, emergency asphyxia procedures in industry should be re-evaluated. Industrial administrators, physicians, nurses, and safety directors are confronted with the problem of providing adequate artificial respiration for asphyxial emergencies throughout the plant. Facilities can be adequate at the industrial dispensary where mechanical resuscitators and/or oxygen may be available.

However, the need for resuscitation is where the emergency arises. Artificial respiration should be simple enough so everyone in the plant can perform it. The method should give the best possible lung ventilation. It should be universal enough to cover all asphyxial accidents.

Man's search for the best possible means of restoring breath has led him from one method to another. He has modified existing methods or put together combinations of methods. Frequently, methods have reappeared that had been prohibited or not used for a number of years.

The earliest methods were not recorded, but probably were attempts to wake the victim and may have included shouting, shaking, and slapping. Primitive man used pain, such as beating, stabbing, and burning to stimulate the victim. Prints of the ancient Chinese show that they used a head-down method combined with pressure on the stomach, or laid the victim over the back of an ox.

Presented at the 34th Annual Western Pennsylvania Safety Engineering Conference, April 1959.

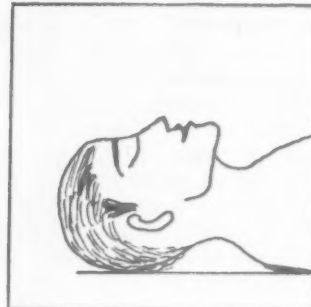
The Egyptians used complete inversion as depicted on their tombs at about the Thirteenth Century. The first known description of resuscitation was that of Elisha (850 B.C.) reviving the Shunamite child by mouth-to-mouth with compression of the chest and tickling by beard.¹ Hippocrates (400 B.C.) recommended warming the body, evoking vomiting and tickling the throat.²

Bagellardus (1500) suggested blowing air into the anus or mouth.³ He was a contemporary of Columbus and probably got his idea from the Indians who blew tobacco smoke into the rectum of the victim. This method was called fumigation and the early Americans modified this to include the infusion of tobacco juice into the rectum. Vesalius (1543), the father of physiology, recommended insufflation of the lungs.⁴ He was the first to realize that air must reach the lungs if artificial respiration was to be successful.

The first account of resuscitation in industry was that by Dr. Tossack (1744), who revived a coal miner.⁵ He used mouth-to-mouth, rubbing, pushing, pulling, and even bleeding. Air by bellows became popular and the Amsterdam Society for Recovery of Drowned Persons established in 1767 employed all of the methods considered best at the time.⁶ These included rubbing the body with rock salt, sal ammoniac, ammonia water, or brandy; cleaning the mouth; tickling the throat and then air by bellows through the nose. If no success, tobacco smoke was blown into the mouth or rectum and resuscitation was continued for six hours. They forbade mouth-to-mouth.

The Humane Society in Paris (1771) used mouth-to-mouth resuscitation combined with compres-

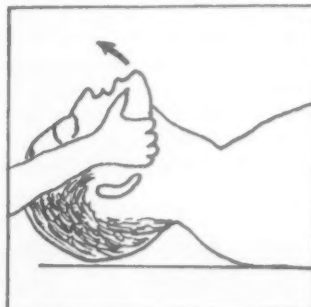
PROCEDURE IN MOUTH-TO-MOUTH RESUSCITATION



1. Place victim on his back.



1a. Clear mouth if necessary.



2. Pull chin up.



2a. Tilt back head if necessary.

National Safety News, April, 1960

sion of the chest for expiration.⁷ They also used insufflation of the lungs by bellows with a tube inserted through the nose. The Royal Humane Society of London (1773) stated that artificial respiration, if performed, required the use of bellows, and mouth-to-mouth insufflation was prohibited because it was considered vulgar.⁸ Dr. Hunter (1776) invented a double-action bellows for getting air into and out of the lungs.⁹

Dr. Fothergill (1781), after experimentation, recommended mouth-to-mouth as a simple, effective, inexpensive method, also the use of oxygen as more efficient than ordinary air.¹⁰ Kite (1788) suggested electricity for stimulation of the apparently dead.¹¹ We do not know his technique but electric shock is still being used in attempts to defibrillate a heart that is in ventricular fibrillation.

Dr. Leroy d'Etiolles (1829) presented the first manual method.¹² For expiration, simultaneous pressure on the abdomen and chest was used, and recoil of the compressed parts served for inspiration. His idea came at a time when people suspected damage to the lungs by bel-

lows. Dr. Terry (1837) reported the use of mouth-to-nose insufflation combined with expiratory compression of the chest for resuscitation of stillborn children.¹³ Dalziel of Drumlansig (1840) built an airtight box for all the victim except the head and developed intermittent pressure with a large hand pump.¹⁴ It was the forerunner of the iron lung, but was too advanced for that time.

Dr. Laborde (1894) reported a tongue traction method which consisted of holding the mouth open and alternately pulling and releasing the tongue.¹⁵ This was to stimulate the trigeminal nerve and send impulses to the respiratory center. Just how the teeter board, seesaw or Eve method came about is not known, but Turnbull (1896) gave the first known report of this.¹⁶ Norton (1897) reported the first successful use of positive-pressure artificial respiration.¹⁷

Since the middle of the nineteenth century most of the methods used have been manual. Karpovich has listed over 100 methods or modifications in his book *Adventures in Artificial Respiration*.¹⁸ The prone pressure with roll method of Hall (1856) and the Silvester (1858) arm-lift chest-pressure and the Howard (1869) method of pressure on the lower part of the chest were the major methods used.

These were superseded by the simple prone pressure method of Schafer (1904) in this country and England. This was replaced in 1951 by the more effective Holger Nielson arm-lift back-pressure.¹⁹ More recently, in 1958, mouth-to-mouth resuscitation was recommended as the method of choice in infants.²⁰

Major emergencies in industry requiring some type of resuscitation are electric shock, heart attacks, carbon monoxide, oxygen lack, and inhalation of irritant gas. In all of these conditions anoxia (lack of oxygen) develops in the brain, the heart, and other tissues. Thus, lack of oxygen produces failure in cerebral function, respiration, and circulation.

Each emergency may require a different procedure, depending upon what time has elapsed and how much failure has occurred. All of us who have produced acute anoxia or asphyxia in experimental animals



4. Remove mouth, listen for exhalation.



4a. Remove mouth, watch chest fall.



3. Place mouth over mouth, seal nose with cheek, blow fully.



3a. Place mouth over mouth, pinch nose, blow fully.

know how quickly failure develops after the oxygen supply has stopped. In sudden deprivation of oxygen, as in strangulation, consciousness is lost within seconds, respiratory attempts cease within one to three minutes and heart action between five and ten minutes. These times, of course, depend upon the oxygen saturation of the lungs, blood, and tissues when the act occurs.

Conversely, any condition that results in failure of the circulation will very soon produce failure of respiration and cerebral function as anoxia develops. The brain is most vulnerable to oxygen lack, and complete cerebral anoxia (no oxygen) for five minutes produces irreversible damage to the brain. The heart is second only to the brain in its need for oxygen.

It is essential that artificial respiration be started as soon as possible as any form of resuscitation which will avert the severe degrees of anoxia is better than any other method started several minutes later.

In electric shock, breathing is usually stopped, the heart may stop or continue to beat, or fibrillate (dis-

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The Plant That Built OUT Hazards

Shotblasters prepare a medium-sized transformer for paint. Work platforms, doors, transfer truck, and turntable are power operated.

By JAMES D. SAUL

ROY BENSON, manager of NSC's Industrial Department, visited the Terre Haute plant of Allis-Chalmers, and was impressed with the way everyone was trying to make every job foolproof. When a *NSNews* editor called for a first-hand look, Jim Callen, manager of industrial and community relations, told him, "Yes, we remember Benson. We could hardly get him out of the plant. It was time for him to go and make a talk at a dinner meeting, it was quitting time and everyone was going home, but he kept wanting to see more."

There is plenty for a safety man to see.

The health facilities, for instance. There are four hospital areas in different buildings around the works. The full-time nursing staff has made such good use of the space and equipment provided by the company that the plant has been awarded the Occupational Health Institute Certificate for outstanding medical facilities. A physician and surgeon are on call. The plant has first

aid, complete physical examination, X-ray, and portable resuscitation equipment. Top level management—superintendents and up—get regular electrocardiograms and upper gastrointestinal examinations. Welders take eye and chest examinations yearly. Men who climb or operate power lift vehicles take regular heart examinations. Painters get micro-urinalyses.

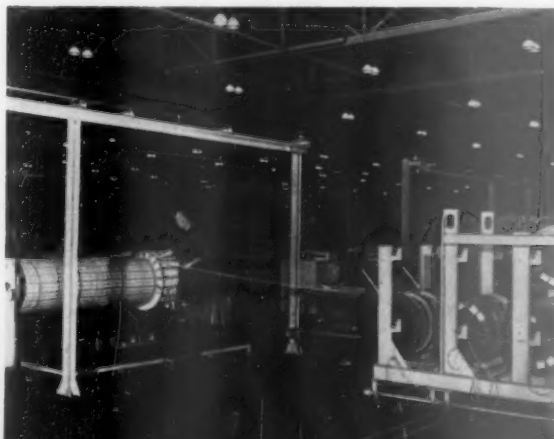
As evidenced by the excellent medical setup, planning, not preaching, is the rule. In the test areas, where enormous transformers, modestly called "medium" by A-C men, are given their final going-over, red lights warn when test equipment is energized. The fenced-in areas can be entered only through doors or gates interlocked and controlled from within.

The plant has been through a change-over during the past year. As they tooled for the new product, engineers, superintendents, foremen, everyone concerned looked for ways to make the job safer.

manual handling is kept at a minimum

Coil winding operator, Walter Reynolds, has enough material to keep busy. He need not make frequent trips for more copper.

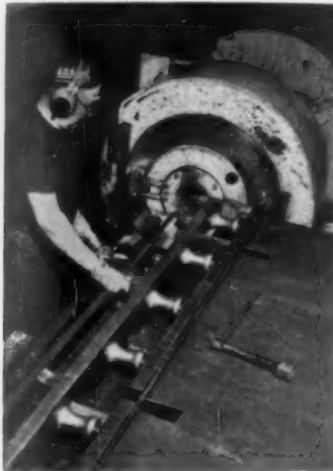
Reels of copper are stored here, away from the winding machines. One trip by a fork lift with rack supplies an operator.



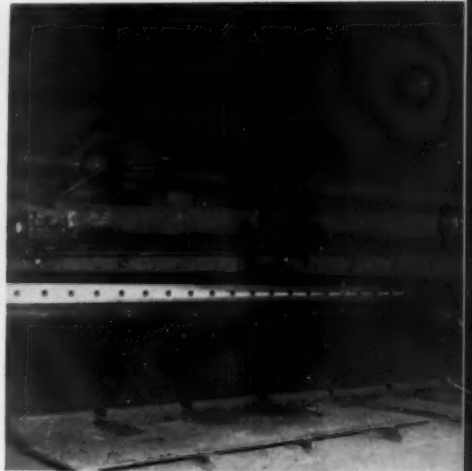
hearing protection is stressed



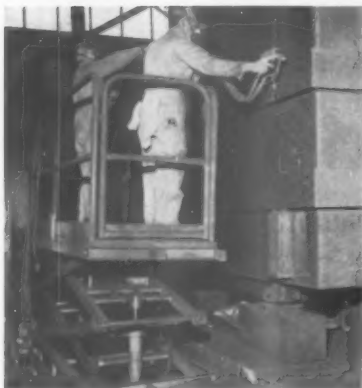
Tank and plate shop worker takes his yearly ear test. He would get more frequent tests if he began to have trouble. Nurse records results.



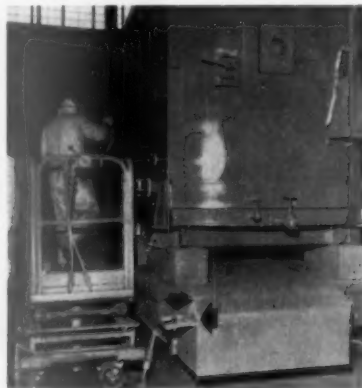
Swaging room of radiator department is so noisy A-C enclosed it completely. Ear protection is required on this job.



Sheet steel one inch thick and 16 ft. long drops here . . . and made a terrifying noise before this inclined silencer was put in.



Scissors-elevated work platform puts spray painters within easy reach of their work.



One-finger operation (arrows) of no-spark air motor moves 100-ton transformers.

**no climbing,
no pushing
heavy loads
for painters**

machines keep sharp-edged metal from hands

Stacks of stamped silicon steel sheet will form transformer cores. Strapped-in hooks allow crane to grip in ten places.



Web of metal coming out of machine has been trimmed. Scrap is cut into chips, then travels conveyor into scrap container.



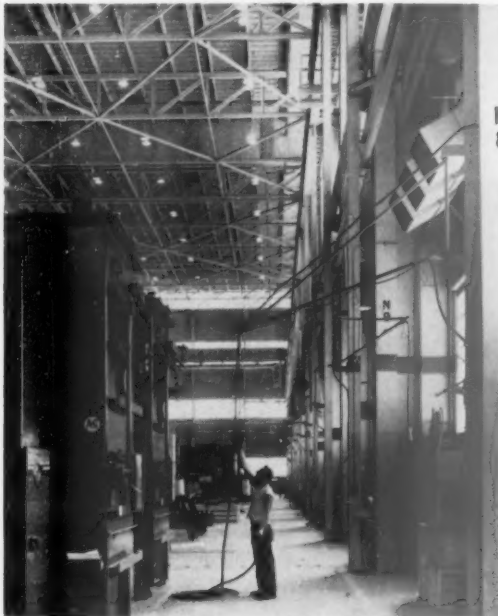
The Plant That Built OUT Hazards

Stan Wojcik, instructor in the hitching class, shows newcomers to hook-on-crane job what to expect when they begin handling big ones.

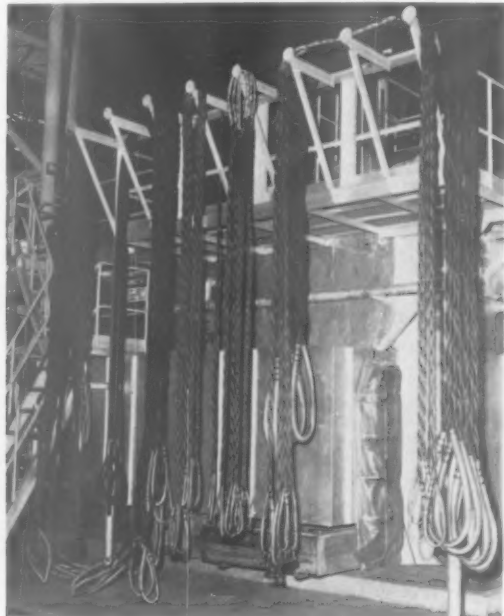


danger underfoot eliminated

Don Kyle selects a power cable. Over-the-aisle brackets prevent tripping from hose and cord clutter on floors.



Neatness is built into A-C's Terre Haute plant. Typical of housekeeping planning is the way slings are stored.



danger overhead eliminated

A maintenance man or crane operator would have to force his finger into a tough sheath to touch guarded trolley wires.



To keep broken light bulbs from falling into work areas, light fixtures were equipped with these plant-fabricated wire guards.



What Type of Glove?

With improved materials and design, industrial gloves provide better protection—when matched to job exposure

By JOHN W. SIMMONS

President, Wilson Glove Company

HAND PROTECTION is becoming more and more specialized. Unless the worker is provided with gloves designed for his specific job—for protection against cuts, abrasions, and toxic or corrosive chemicals—the hand safety program may be excessively expensive and provide little protection.

In most cases, even the wrong glove is probably better than no glove, especially when the hands are exposed to solvents and chemicals that would cause immediate injury on exposure. But in other exposures, where skin damage is caused by prolonged exposure, the worker might have a false sense of security. As a result he might neglect protective and hygienic measures. This can be dangerous if, because of premature deterioration, the gloves should develop tears or punctures



Disposable polyethylene gloves are used with some liquid and powdered chemicals. These gloves are made with five fingers and are interchangeable.

that would allow toxic substances to seep through and become trapped inside.

Such measures do little to reduce lost time and compensation costs resulting from injuries and occupational skin diseases. If a glove is used in a solution for which it is not intended, its service life may be shortened to the point where replacement costs get out of control.

When this happens, the natural reaction on the part of the glove specifier is to blame the supplier. Fortunately, most of these complaints have a happy ending. I recall a recent case in which a manufacturer, who at that time did not have the services of a trained safety man, reported consistently high replacement costs. His complaint seemed to be justified. But when our laboratory people investigated the cause for his losses, it was found that workers were wearing natural latex gloves to protect their hands in a solution of linoleic acid.

In most cases, latex gloves are recommended for protection against acids, but not against this particular acid. When workers switched to neoprene gloves, which are especially suited to this chemical, the problem was solved. I could cite many similar situations, almost all of which could have been prevented by consulting with the glove manufacturer before losses were experienced.

To help guide those responsible for hand safety, almost all manufacturers offer free selection charts indicating the glove material that performs best in specific chemicals. We recommend that these charts be consulted before ordering gloves to be used in known toxic solutions and solvents.

Special requirements. But with the almost daily development of new chemicals, it would be impossible to cover all applications in published



Neoprene gloves, resistant to most oils, greases, and petroleum solvents, are available in smooth or roughened finish.

charts. This is especially true when new products are still in the development stage.

In such cases, it is recommended that the manufacturer draw on the professional services of his glove supplier. Although there has at times been a natural reluctance to divulge the formulas of new, or even established, products, more and more they are coming to the glove supplier for concrete recommendations before someone suffers hand injuries.

Processing information supplied to reputable suppliers is always

—To page 64



Sulfur-free plastic gloves are recommended for handling precision parts to protect highly polished metal from perspiration.

Note color accents in this shop scene: Floor striping, electrical controls on machine, location of emergency equipment on pillar, and identification of contents in pipe at upper left. Unfortunately, these can't be reproduced in the original colors (Photos and chart by Lawter Chemicals, Inc.)

More Power For Paint

**Fluorescent coatings—four times brighter
than ordinary colors—are useful where
higher visibility means greater safety**



ADVERTISING MEN many years ago discovered that color sells. Not long after, safety men learned it also protects. So industrial plants began applying strong colors freely wherever high visibility was needed—to mark fire-fighting equipment, obstacles, exits, and points of high hazard.

The power of color got a tremendous boost with the introduction of fluorescent coatings and pigments four times brighter than conventional paints. These dazzling colors have come into increasing use for advertising displays, and their eye-catching power explains the reason.

Back in World War II the U.S. armed forces had discovered the value of these high-visibility colors. They are credited with saving many American lives by enabling life rafts, mae wests and military signalling devices to be seen at great distances.

Down in Antarctica, the Navy made the first full-scale use of fluorescent color in "Operation Deepfreeze." These brilliant colors aided in the rescue of at least two Navy airmen forced to crash-land many miles from their base camp. The bright fluorescent markings on their plane's wing tips acted as a beacon for the rescue parties.

What is fluorescence?

As defined by Robert Voedisch, chief research chemist for Lawter

Chemicals, Inc., of Chicago, manufacturers of fluorescent industrial safety paint, fluorescence is:

"The visual effect gained when white light passes through several layers of semitransparent pigment, hits a white reflective undercoat, and bounces back in highly intensified form as spectral conversion changes the shorter violet and blue wave lengths to orange, red, and yellow hues.

"When the same light hits non-fluorescent surfaces, only portions of it are reflected back. The rest is absorbed or dissipated as heat and other nonvisible forms of energy."

It should be remembered that fluorescent safety paint should always be applied over a white background.

Aviation has provided the most spectacular applications of fluorescent color. Military authorities believe in it and feel it has been a factor in cutting collisions in the Air Training Command. Many companies and owners of private aircraft have adopted high-visibility markings for their planes.

For ground installations, instant recognition of runway cones, boundary markers, hangars, towers, air markers, and wind-T's can often be a decisive safety factor in cross-country flying.

With their high-contrast factor,

fluorescent colors are exceptionally easy to see at dawn, in heavy overcasts, and at dusk when normal visibility is at its lowest. In normal daylight they attract attention from much greater distances than conventional paints. They do not tend to become achromatic (to appear white, gray, or black) at extreme distances, as regular colors do.

Industrial Uses. Judicious use of bright colors in danger areas has been recommended as an aid to alertness, particularly when the mind might be lulled by continued repetitive action, as in the operation of many production-line machines.

Conspicuous applications of fluorescent colors include barricades, "low clearance" warnings, high-voltage wires and connections, switch boxes, floor hopper areas, loading platforms, explosives vaults, first-aid stations, valves, fire-fighting equipment, and industrial trucks.

Where relatively large areas are to be covered, fluorescent colors are most effective when contrasted with regular colors. An example is diagonal stripes of fluorescent yellow or orange and regular black.

Where hard hats are painted in various color schemes for safety "conspicuity" and identification of the wearer's occupation, fluorescent colors are often used. Gloves in these

colors are also helpful in occupations where hand signals are used, as in crane operation.

Warning signs in fluorescent colors have greatly increased visibility and impact. These colors can be applied to the *ASA Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment*, Z53.1-1953; *Safety Color Code for Accident Prevention Signs*, Z35.1-1941; and *Identification of Contents of Pipes*, A13.1-1956.

Fluorescent colors are also excellent for use on hunting jackets, hats, boots, and other equipment. A hunter in such a vividly colored jacket could hardly be mistaken for a deer.

Municipalities and public utility companies also find many uses for high-visibility paints. Among these are fire hydrants, alarm boxes, police, fire, and other emergency vehicles, traffic-control signs and devices, highway stripings, barricades, signal paddles and flags, radiation-protection shelters and tollway markers.

For trucks, school buses, and inter-city buses, dramatic stripings on the back and sides help to prevent collisions, particularly those due to visual driving fatigue or "highway hypnosis." Colors also make vehicle lettering stand out sharply.

Application. Fluorescent coatings are available in a variety of formulations for application by brush, spray, or roller. They can be obtained in any size container from a pint to a drum and in aerosol cans.

For those who wish to experiment

WHERE TO USE FLUORESCENT SAFETY COLORS

As applied to *Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment* Z53.1-1953, ASA.

APPLICATION	Red-Orange	Yellow-Orange	Red	Pink	Corise Red	Gold Yellow	Lemon Yellow	Green	Purple (Special color)
Fire protection apparatus, walls and supports for which extinguishers are mounted. Flammable liquid containers, barricades, danger signs, emergency stops on machines, emergency stop buttons for electrical switches.	●		●	●	●				
Top and bottom treads of stairways, low beams and pipes, crane hooks, tractors and industrial locomotives (in stripes with black).		●				●			
First-aid and safety equipment, stretchers, gas masks and bulletin boards.							●	●	
Dangerous parts of machinery or energized equipment, elevator doors or where gear, belt or other guards around moving equipment are open or removed.		●				●			
Radiation hazards. Yellow should be used with purple for tags, labels, signs and floor markers.		●				●			●

As applied to *Safety Color Code for Accident Prevention Signs* Z35.1-1941, ASA.

APPLICATION	Red-Orange	Yellow-Orange	Red	Pink	Corise Red	Gold Yellow	Lemon Yellow	Green	Purple (Special color)
Warning of special dangers (signs for high-voltage, toxic and corrosive chemicals, collision hazards and explosives.)	●		●	●	●				
Caution; possible dangers or unsafe practices (signs for elevators, aisles, danger areas on machines, no-smoking, safety goggles, etc.)		●				●	●		
Safety instructions (signs for directions to first aid stations, etc. and general information.)								●	
Arrows at exits and stairways.				●					
Radiation signs (directions to shelters).									●

As applied to *Identification of the Contents of Pipes* A13, 1-1956, ASA.

APPLICATION	Red-Orange	Yellow-Orange	Red	Pink	Corise Red	Gold Yellow	Lemon Yellow	Green
Fire Protection	●		●		●			
Dangerous Materials		●				●	●	
Safe Materials								●
Protective Materials				●				

Vivid diagonal striping on diesel locomotive and on end of cars stands out conspicuously in smoke and dim light. Fluorescent color also makes it easier for the eye to spot the switch and stop signs.



with fluorescent colors under actual working conditions, test kits are available. These contain small cans of paint in several colors, plus white undercoat and a protective clear sealer for outdoor applications.

Wood, metals, paper, plaster, glass, plastics, and cloth can be coated with these paints. Another formulation can be used to produce effective silk-screened signs.

Properly applied, fluorescent coatings should last a year, even when exposed to weathering. The most durable colors—red-orange and yellow-orange—will last up to 20 months. Indoors, even longer service may be expected. The paints are relatively low in toxicity.

Svakom povredjenom mora da se pruži prva pomoć!

Jede verletzung muss erste hilfe erhalten!

Toute blessure doit recevoir les premiers secours!



Safety Crashes The Language Barrier

By ROBERT DORSETT

Joseph Wohlfeil, safety manager of Curtiss Candy Co., offers a sampling of the many language handouts that are given to new workers as safety instruction.

hour a day for two days a week," Wohlfeil said.

Supervisors and other company officials are especially sympathetic to this program. Many of these management men are of German, Polish, Japanese, or other non-English-speaking extraction.

Expecting frequency and severity rates to rise, the firm revised its safety operation to meet language problems head on.

"We urge workers to study English in the public school system, but we're more concerned with supervisors being able to talk with employees," Joseph Wohlfeil, Curtiss safety manager, said.

"Our workers like to hear and see something in their own tongue. They appreciate it when management thinks enough of them to work up projects along these lines. It certainly makes for security and safety."

Supervisors have found that new workers have a tendency to say "Yes" to almost any order from a higher-up, then go ahead and do something unsafe.

To make the supervisors' (and ultimately the workers') jobs easier, the firm hired a qualified teacher of Spanish. Operating on a part-time basis from January through July, this teacher has instructed supervisors who voluntarily study the language.

"The majority of our workers not speaking English now hail from Puerto Rico. As a result our Spanish language class gets together one

Printed materials are important to this safety effort. Curtiss periodically asks for and receives photographed safety posters from Aetna Life Affiliated Companies.

Examples are: *Hold the Handrail, Every Injury Must Be Reported to Your Foreman, Put Refuse into Containers*. Aetna sends these and 12 other posters—in Spanish and English—to Curtiss. And working through local consulates, the candy company has created display materials in seven languages.

The posters are stapled or taped to pillars near equipment or are attached to individual machines. After a month, supervisors replace the items and put up another set.

Safety films are a component of the project. Although employees speaking another language are not asked to take part in safety lectures—requiring an understanding of English—new workers can follow film action and still get the idea. If any questions pop up, interpreters are available.

Usually a worker in the plant, the interpreter plays an important role in company induction and orientation systems. He explains conditions of employment, rules of conduct, facilities provided for the new worker's health, recreation, and safety.

"Our interpreters often explain

WHEN 20 PER CENT of your firm's labor force speaks one of eight different languages, you've got problems—especially safety problems, if these workers operate around heat, moving parts, and machinery.

Curtiss Candy Company's six Chicago plants found themselves in this difficulty shortly after the end of World War II. Hiring employees from France, Germany, Italy, Japan, Yugoslavia, Lithuania, and Greece, the organization was faced with language barriers.

Since then, and to overcome similar obstacles with Puerto Rican help during the past five years, the company has developed an integrated program of printed materials, visual aids, and personal assistance. A Spanish language class is also under way.

The result: greater efficiency, higher morale, and a safer working environment.

A Curtiss survey found that non-English-speaking employees distinctly affected the safety record.

passages the new worker doesn't understand in the booklet, *Welcome from All of Us at Curtiss*. Then we introduce the employee to his supervisor, give him a set of safety materials in his own language, and the supervisor trains him," Wohlfeil said.

"We try to build up the employee's confidence as quickly as possible," Wohlfeil said. Erasing language problems can cancel feelings of inadequacy. As he told members of the NSC Food and Beverage Section a few months ago:

Eliminate Awkwardness

"One of the first objectives of orientation training is to eliminate that feeling of ignorance and awkwardness which makes the new worker feel so inferior to those around him.

"Thoughts and feelings of most new employees are dominated by doubts and fears and hunger for an occasional word of reassurance. The new employee should quickly receive information, such as location of washrooms, drinking fountains, where and how to get tools.

"It's surprising how knowledge of even these little things helps to eliminate the feeling of inferiority . . . especially when the foreman can't be located in a particular situation."

However, workers unable to speak English cannot serve on plant safety committees. In each of the firm's plants these committees run their own programs, holding safety sessions for one hour during the last week of the month.

Each group is made up of depart-

ment chiefs and foremen and is headed by a rotating chairman selected annually. When the worker with the language handicap has progressed to a certain point, he is eligible for membership on such a committee.

The company tries to get a new employee off on the best possible start, but considers induction and orientation crowded into too short a time.

The firm believes that, if management doesn't plan an effective induction program, the process will take place unofficially. Employees will learn from other workers—probably misinformation. A well-organized program assures that workers get facts, bringing higher morale and making the worker's attitude more positive toward the company.

Language plays a part in such planning. It can help or hinder the supervisor from pointing out hazards of work, precautions established, and responsibilities the employee should accept.

Language is the more important, since indoctrination is not maintained just for the new younger worker entering industry or the new worker with previous experience. Safety education is a continuing process for skilled and unskilled, supervisory and management personnel at Curtiss.

This training is not limited to the recently hired worker but serves as a refresher when he is transferred to a new job or to processes requiring different skills. Workers who can work unhindered by language are proving to be employees who do a better, quicker, more profitable, and safer job for the company.



Above: Spanish workers leave Plant 5.

Below: In Spanish, Italian, Polish and English, the sign on the pillar says: "Beware of moving parts of machinery."



Foreman in the candy packaging department explains safety to assistant, who interprets these ideas to Puerto Rican worker.



Personnel department official goes over safety instructions with newly employed worker who speaks little but Japanese.





news briefs

Hot act

A blindfolded drum majorette was doing her stuff with flaming batons in an auditorium in Mt. Ephraim, N. J., when she lost her balance and fell against a curtain. It broke up the show. Other performers pulled her away, and part of the audience grabbed hand extinguishers to fight the fire in the curtain while the remainder filed out.

You never know

A worker doing routine receiving work on a dock had one lens of his safety glasses shattered by a flying object. Investigation proved it was a screw from the blade of an overhead fan.

Lead eaters

A wide-awake industrial physician in Germany discovered several cases of men eating lead—some for temporary compensation payments, other more ambitious plumbophages trying for permanent pensions. The doctor became suspicious when symptoms persisted after the men left the exposures. One man carried a chunk of lead and a file to prepare his snacks.

Refiners burn CO

Some refiners have installed huge waste heat boilers using carbon monoxide as fuel. Three of the \$1½ million-dollar units are operating, using over a thousand tons of CO a day.

Bites and stings

The rattlesnake, who gets credit for inventing the art of self-defense, kills fewer people than do stinging insects. The honeybee alone claims almost as many victims as the dreaded rattler. Besides, the bee's sting kills quicker than the rattler's bite. Allergic reaction to insect venom is the cause of death in the case of stings. For this reason, adults, who are more likely to have become sensitized, are in greater danger than children.

Pollution control—cheap

If you can't beat 'em, join 'em. A new smoke-stack perfume is being offered to industrial plants whose managements want to avoid offending nearby populations with fumes and smokes. Now the "science" of reodorization has arrived. We have

come a long way since the time when London gentlemen walked the streets with their noses buried in oranges to escape the overpowering olfactory evidence that they were living close to their fellow creatures.

Threats helped alcoholics

A technique for helping alcoholics so different it appears to violate basic principles is proving effective at the New York-Bellevue Medical Center Industrial Alcoholism Clinic. According to Dr. Daniel F. Feldman, the secret involves early detection and the alcoholics' fear of losing their jobs. Veteran employees with strong job ties responded well to treatment, even though they had at first refused to admit their need.

"Fill it . . ." Boom!

One more little-car-with-rear-engine story will never be noticed. This one pulled into a gas station and the attendant somehow managed to pump gasoline onto the hot engine block. No injuries, but considerable fire damage.

Remote control braking

To keep railroad car handlers from stepping between cars to release air, an extension made of ¾-in. hose was attached to the air fitting of the cars on the siding. A valve on the extension goes to the air supply of the plant. Another valve opens and closes the air supply. Handlers can set or release the brakes without going between the cars.

"East is East . . ."

. . . But the twain *have* met in Bhilai, India, where the Soviet Union has built a steel mill. Though the mill is part of their effort to show uncommitted India their way is better, they don't come near the U.S.A. in safety. One Indian reported the Russians "don't give a damn about safety." Part of their "program" involves two minutes of silence in the department whenever a fatal accident occurs.

Jim Saul

CONTOUR-SPEC

Exclusive Hinged Bridge automatically adjusts so that one size fits all faces... broad or narrow, long or short. Replaces up to ten sizes of conventional safety spectacles.



MONOGOGGLE

All-around snug fit for complete closure, even over spectacles. Wide, distortion-free clear acetate lens. Ventilated, unventilated, and indirect models.



STREETWEAR-STYLE SPECTACLES

Handsome halftone styles with choice of ebony overlay, shown above, or demi-amber overlay on crystal-clear frame. F7 lenses... plano or prescription.



METAL SPECTACLES

Latest styling with modern F7 lenses and plastic-tipped spatula temples. Extra-strong bridge with four contact points. Nickel silver frame and temples. Also available with sideshields.



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CUP GOGGLES

Willson Kover-Mor with durable nylon cups that fit easily over prescription glasses. Screen ventilators, slotted lens rings assure continuous air flow.



WELDING HELMETS

Exceptionally strong and comfortable lightweight helmets. Durable one-piece seamless Fiberglass shell... nonwarping, moisture-proof, heat-resistant. Nine styles.



MONOMASK

Automatically shapes to the face to assure a positive seal, exceptional wearer comfort. B. M. approved for protection against all dusts, pneumoconiosis-producing mists, chromic-acid mist.



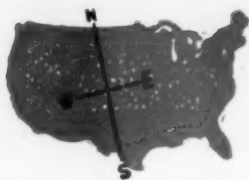
RESPIRATORS

One Willson #800C respirator does the job of nine for protection against all dusts (including radioactive dusts), mists, metal fumes, vapors, gases, when fitted with proper filter or cartridge.

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IN CANADA, IT'S SAFETY SUPPLY COMPANY

AROUND THE COMPASS



ACTIVITIES

• PROGRAMS

• EVENTS

By **THOMAS J. NOLAN**

Field Service Department, NSC

Recreation Safety Committee Organized

The Calcasieu Area Safety Council, Lake Charles, La., has organized a Recreation Safety Committee with representatives of all agencies (such as Red Cross and Power Squadron) involved in any phase of the water sports program in their area. The committee's objectives: to determine and publicize available instructional facilities for swimming and other water activities, to establish program needs to prevent drownings and water accidents, and to bring about better enforcement of federal boating laws.

A "Miss Water Safety of 1960" was selected to serve as a symbol of the program and assist all agencies in demonstrations and water shows.

Many Annual Reports Distributed

In the past few weeks many annual reports have been received from various safety organizations. The reports vary from a few pages of mimeographed material to an elaborate, carefully designed booklet. The report usually contains historical information on what has been done in the previous year, an outline of projects and activities scheduled for the current year, lists of the officers, directors and members, and an invitation to other groups and individuals to participate in the activities of the organization.

Apparently, in some cases the report is sent only to persons connected with the organization. In other cases there is wide distribution of the report to all interested organizations and individuals in the area serviced by the safety council.

Such a report provides a good means of publicizing the activities of the organization and, at the same

time, presents an opportunity to promote interest and financial support to assure continued successful operation.

Court School

"Graduates" More Than 1,700

The Greater Cincinnati Safety Council reports more than 1,700 "graduates" from the Juvenile Court Traffic School conducted by the Safety Council every Saturday morning.

With the help of teachers from the Division of Police and the Traffic Engineering Bureau, each young violator is required to attend four two-hour sessions. Does it accomplish its purpose of making safe drivers out of "hot-rodders?" The answer is an unqualified "Yes," Juvenile Court workers declare.

New Saginaw Manager Appointed

Kenneth J. Melville has been appointed executive secretary of the Greater Saginaw Safety Council by the executive board. Announcement was made by Anton F. Deisler, president.

Melville formerly served on the Saginaw Police Department as safety officer. He is a native of Saginaw and has spent the past 11 years with an insurance company. He replaces Robert Fraker who resigned after serving more than three years.

President's Committee Presentation

Harry Brainerd, chairman of the Conference of State and Local Safety Organizations, made a presentation to the President's Committee for Traffic Safety on behalf of the Conference. He reviewed Conference activities and showed its relationship to the program of the President's Committee.

Ingenuity Conquers Weather

NSC President Howard Pyle was scheduled to give an address at the annual meeting of the Chattahoochee Valley Safety Council, West Point, Ga., on February 11. Severe weather conditions canceled airline flights, and Mr. Pyle was unable to get to the meeting.

Through "remote control" arrangements, Mr. Pyle gave his address by long distance telephone. Incidentally, the address was clearly heard by those attending the meeting.

Education on Freeway Driving

Several safety organizations have recently conducted educational campaigns, or have cooperated with other agencies, in alerting the motorist to the added responsibilities they have in driving on expressways, freeways, or other limited access highways. The importance of this type of educational program will undoubtedly increase, as additional miles of this type of highway are made available to the motorist.

Pennsylvania Governor's Conference

Governor David L. Lawrence has called a Traffic Safety Conference to be held in Harrisburg, Pa., April 20, to generate grass-roots support for improved traffic safety.

The governor said, "Traffic safety experts will explain the new schedule of penalties for traffic law violators, why radar is essential as a modern enforcement tool, the value and need for chemical testing for intoxication, and all other factors that can improve highway safety."

Full Page of News on Safety

The *Charleston Daily Mail*, Charleston, W. Va., recently gave extensive coverage to a safety news item. The front page of the edition carried a headline and two-column lead item. The reader was then referred to an inside page which covered an interview with Charles Hopkins, managing director of the West Virginia Safety Council. The inside page included a comprehensive interview with Mr. Hopkins, a montage of pictures and newspaper articles on safety, and other pictures.

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- GENTLE . . . EASY
- THOROUGH . . . SAFE

99.6% EFFECTIVE

RADIOLOGICAL DECONTAMINATION OF THE SKIN

Exhaustive testing by a world renowned university with extensive laboratories and radioactive research and testing facilities, has proven conclusively that the removal of radioactive contaminants on the skin was effected with 99.6% efficiency by PAX-LANO-SAV Granulated Skin Cleanser (Heavy Duty). Controlled time tests reveal:

PHOSPHOROUS³² 99.6% REMOVAL
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Above contaminants represent common and difficult to remove radioactive salts.

CLEANS INSTANTLY AND THOROUGHLY

PAX-LANO-SAV Granulated Skin Cleanser effectively removes . . . in seconds . . . grease, grime, dirt, grime, points and all stubborn soils . . . gets the skin really clean . . . faster . . . better . . . and more easily than any "waterless" cream, soap or dry skin cleansing product known to us.

THE PAX C-P-2 DISPENSER

• THE ONE MULTIPURPOSE DISPENSER handles either Creams or Powders.

Future change-over from one type of skin cleanser to another will not obsolete your dispensing equipment.

• **GIANT CAPACITY.** Holds over 1 gallon of cream or 1½ gallons of powder. The PAX C-P-2 is truly a modern industrial dispenser. Holds up to 10 times more cleanser than conventional dispensers.

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Safety Views a Changing World

President's Conference on Occupational Safety surveys space age problems and methods of reconciling safety and technological progress

MORE THAN 3,000 leaders of American business, labor, agriculture, state and federal agencies, insurance, education, and private safety organizations met in Washington, March 1, 2 and 3 to study and devise voluntary ways of meeting "The Challenge of Safety in a Changing World."

The seventh President's Conference on Occupational Safety and Health, meeting at the call of President Eisenhower, faced problems far more complicated than those confronting any earlier conference. The breath-taking pace of technical progress during the 50's promises to continue at accelerated pace during the years ahead. How can the forces of organized safety keep man from being destroyed by the products of his own ingenuity?

The program for the three-day meeting began to take shape early in 1959 when a 38-member technical advisory committee met in Washington, with Reed O. Hunt, president of Crown-Zellerbach Corporation, and executive director of the Conference, presiding. The program resulting from their plans brought together as speakers and panel participants some of the country's noted authorities in their respective fields.

At the opening session, Secretary

of Labor James P. Mitchell outlined the purposes of the conference and the three basic challenges confronting safety: the changing nature of work, the changing nature of the work force, and the unchanging nature of man.

In the absence of President Eisenhower, who was in South America, Vice-President Richard M. Nixon welcomed the conference delegates, expressing his appreciation of their part in making the country strong economically while preserving human values.

Tuesday afternoon was devoted to a session on the "Unchanging Nature of Man in a Changing Environment," with a symposium on the three basic challenges outlined by Secretary Mitchell.

In the evening a session dealt with the challenge to "Schools for Safety in a Changing World," with points of view of the educator and industry.

On Wednesday, eight workshops with audience participation were held, and the conference concluded with a general session Thursday morning addressed by Howard Pyle, president of the National Safety Council.

THE WHITE HOUSE
WASHINGTON

January 26, 1960

JOB SAFETY WEEK

During the 1960's, to meet the competition of our age, America needs an ever-increasing number of skilled working men and women. These are the Nation's pride and strength. And their safety at work is a national concern.

During Job Safety Week, February 28 - March 5, I have invited leaders from business, agriculture, labor, Government, educational, insurance and safety organizations to meet in Washington for the President's Conference on Occupational Safety. I hope this Conference will devise a program of voluntary action to bring about a better safety record in all places where Americans are at work.

I hope that State and local officials will join in similar efforts during Job Safety Week to emphasize the need to raise the standards and practices of occupational safety across the land.



Conference Conclusions

A supreme challenge of the 60's is to detect and control the hazards of man's swiftly changing environment—an environment created largely by research and development.

The work force which will build this changing workplace is changing, too. Population will grow by 15 per cent during the 60's. Increases in the labor force—mostly among younger and older workers and women—will be the largest for any decade in our history. There will be a shortage of men in the prime working ages, the group which furnishes executives, supervisors, and skilled craftsmen.

Trends in employment will shift even further from production to service industries, from blue collar to white collar jobs, toward professional and technical occupations, such as engineers, scientists, and technicians.

The dilemma is how to meet the demand for highly skilled personnel from a growing supply of less experienced workers. This will place a premium on education and training

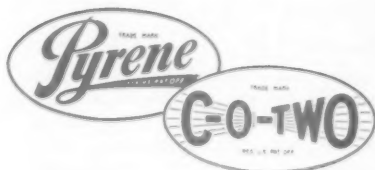
—To page 97

PYRENE

liquid agent extinguishers assure plant-wide fire protection

If plant-wide fire protection is your responsibility . . . your local Pyrene-C-O-Two distributor is the man to consult! He carries Pyrene's complete line of liquid agent extinguishers, featuring stainless steel finish, 100% steel-constructed water, soda-acid, foam and loaded stream units. Specifically, he offers clear water or soda-acid units for heated areas where ordinary combustibles, such as paper, wood, fabric or rubbish are chief hazards. For unheated warehouses, mills, docks, sheds etc., he stocks anti-freeze units. For ordinary combustibles and flammable liquid hazards, he has available foam or loaded stream extinguishers. And for areas where flammable liquid and live electrical equipment constitute threats—including trucks and other mobile apparatus—he carries vaporizing liquid units. The chart below summarizes the range of this complete liquid agent extinguisher line. Your Pyrene-C-O-Two distributor will help you select from these . . . or he can also show you a complete line of Dry Chemical or Carbon Dioxide extinguishers. Look for his local listing in your Yellow Pages under "Fire Protection Equipment."

**...featuring stainless steel: water,
soda-acid, foam and loaded stream units!**



CLEAR WATER, Pressurized or Cartridge Type—2½ gal.

ANTI-FREEZE, Pressurized or Cartridge Type—2½ gal.

PUMP TANK (Anti-Freeze or Plain Water)—2½, 5 gal.

SODA-ACID—2½, 20, 40 gal.

LOADED STREAM, Pressurized Type—2½ gal.

FOAM—2½, 20, 40 gal.

VAPORIZING LIQUID, Pressurized Type—1, 2 qt., 1 gal.

VAPORIZING LIQUID, Hand Pump Type—1, 1½ qt.

products of **THE FYR-FYTER COMPANY**, Dayton 1, Ohio

Branches: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Toronto (Ontario). Representatives and Distributors in all principal cities.

THE SAFETY LIBRARY



Reviews of books, pamphlets and periodical articles of interest to safety men

By LOIS ZEARING, Librarian, NSC

Analysis of Air Pollutants

The Chemical Analysis of Air Pollutants. By Morris B. Jacobs, Ph.D. Interscience Publishers, Inc., 250 Fifth Ave., New York City, 1960. \$13.50. 430 pp.

DR. MORRIS B. JACOBS is qualified as an authority on air pollution control and the analysis of the contaminants. He is at the present time an air pollution control consultant. Previously, he was chief organic chemist, Department of Health, City of New York. He has authored or co-authored several books, two of which are: *The Analytical Chemistry of Industrial Poisons, Hazards, and Solvents* and *The Chemical Analysis of Industrial Solvents*.

Since the book details methods for the determination of the kind and amount of air contaminants, it is ideally suited for use by the air control analyst, the air pollution control staff member, or the industrial hygienist into whose sphere of responsibility may fall the field of air pollution.

It is especially valuable to the person starting an air pollution program within his own organization. The book would be only of limited value to the toxicologist, physician, and safety engineer.

The author details methods for sampling as well as procedures for the determination of air and gas volume, quantity, and velocity. He also discusses extensively the methods used in the analysis of settled and suspended particulate matter and gaseous and vapor contaminants of the atmosphere, including radiochemical methods.

There are chapters devoted to stack sampling and the determination of dust loading, determination of incinerator flue gases, estimation of motor vehicle exhaust gases, determination of odor, and a discus-

sion of air-contaminant monitoring instruments.

The author has included simple, inexpensive methods of analysis as well as more elaborate and instrumental techniques.

J. T. SIEDLECKI

Foreman Training

Foreman in Action. By Glenn L. Gardiner. Harper & Brothers Publications, 51 East 33rd St., New York 16. 1959. \$4.50. 238 pp.

IF YOU are looking for a book on foreman training that covers the subject in an easy-to-take style, this is certainly a book to consider.

The author has selected 12 foremen and devoted a chapter to each one. In each chapter he takes the outstanding supervisory characteristic that contributed to the individual's success and shows how it helped develop his foremanship skills.

Written in a narrative style, the book makes easy reading and is one that can be readily adapted to a training program. Although each foreman here has one outstanding characteristic which has been foremost in his development, the author is careful to emphasize that to be successful as a supervisor one needs many skills.

Of particular interest to the safety director is the fact that the author recognizes safety as one of the very desirable attributes of a good foreman. This is recognized in the fact that being a stickler for safety is the forte of one of the 12 foreman heroes.

It is also pleasing to find that all through the book safety receives its proper consideration. This is a book that foremen will read and assimilate.

In addition, the book has an action plan. It shows how an individual can study the book alone for his own development. It can also

serve as a source of knowledge for the student to partially substitute for experience. Based on actual supervisor experiences, the situations become plausible and understandable. Test questions at the back, together with situations to consider, make the book ideal for group discussion.

ROY G. BENSON

Radiation Protection

Atomic Radiation, Part II. Prepared by RCA Service Co., Division of Radio Corporation of America Government Service Department, Camden 8, N. J. 1960. \$2.65. (10% discount for 10 or more copies.) 117 pp.

ATOMIC RADIATION—PART II is a sequel to an earlier book, *Atomic Radiation*, published in 1957. The first volume surveys the subject of atomic radiation and presents material written to familiarize the reader with the theory and biological effects of ionizing radiation, offering measures necessary to avoid injury. The first volume has been well received, so much so that it is now in its fifth printing.

The companion volume, Part II, is concerned with practical aspects of radiation protection. In addition to a detailed table of radioisotope data, other topics discussed include monitoring instruments and techniques, health physics, radiation exposure control, facility design, protective devices, decontamination, permissible exposure levels, emergency procedures, handling and disposal of radioactive waste.

Persons with little or no background knowledge of radiation will find these books helpful, because technical information presented is clear, precise, and well written. If you are interested in learning more about atomic radiation, these books are highly recommended.

ED ALPAUGH

BOOKS AND PAMPHLETS

Aeronautics

FAA Statistical Handbook of Aviation. 1959 ed. 140pp. Federal Aviation Agency, Superintendent of Documents, Washington 25, D. C. Price 60c.

Chemicals

Diethylenetriamine, Properties and Essential Information for Safe Handling and Use Of. 1959. 13pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington —To page 68

**NO JOB IS SO IMPORTANT
AND NO SERVICE IS SO URGENT—
THAT WE CANNOT TAKE TIME
TO PERFORM OUR WORK SAFELY.**

BELL SYSTEM

This sign is posted throughout the Bell System in offices, equipment rooms, garages, on the dashboards of company cars and trucks—wherever it will be seen many times a day by every employee. It is a constant reminder that safety must be a habit of mind, a way of working, and, at any time, the *first* thing to think of, and the *last* thing to forget.

BELL TELEPHONE SYSTEM





OFF THE JOB

Safety programs for plant and community

By HARRY C. JOHNSON

NSC Staff Representative, OTJ Safety Committee

Traffic Arrests Save Off-Jobber Lives

Traffic accidents kill and hurt a good many workers on their way to and from the job. Consequently, this excerpt from the October 1959 issue of the *Chicago Traffic Safety Review* might be appropriate:

Traffic law enforcement during Chicago's most hazardous period, the months from November through April, has an immediate effect on traffic accidents... increased enforcement decreases accidents.

A study by the Citizens Traffic Safety Board shows that each additional 1,000 arrests for moving hazardous violations reduces accidents by 69. "Every increment of 1,000 arrests eliminated 69 accidents in the period analyzed," CTSB said.

Police records from a total of 40 months, periods from November through April during 6½ years, were studied. Statistical adjustments were made to permit accurate and fair comparisons. These adjustments compensated for differences in yearly vehicle registrations and monthly variations in travel and in the number of days in each month.

In the chart here, the findings are graphed. The graph shows a sloping line drawn through a field of dots. Dot placement shows the combined accident and arrest experience in each month.

There are 40 dots. The sloping line illustrates the relationship of enforcement and accidents. The angle of the slope demonstrates the impact increased enforcement had on accident reduction during the

November-April segments of the 6½ years.

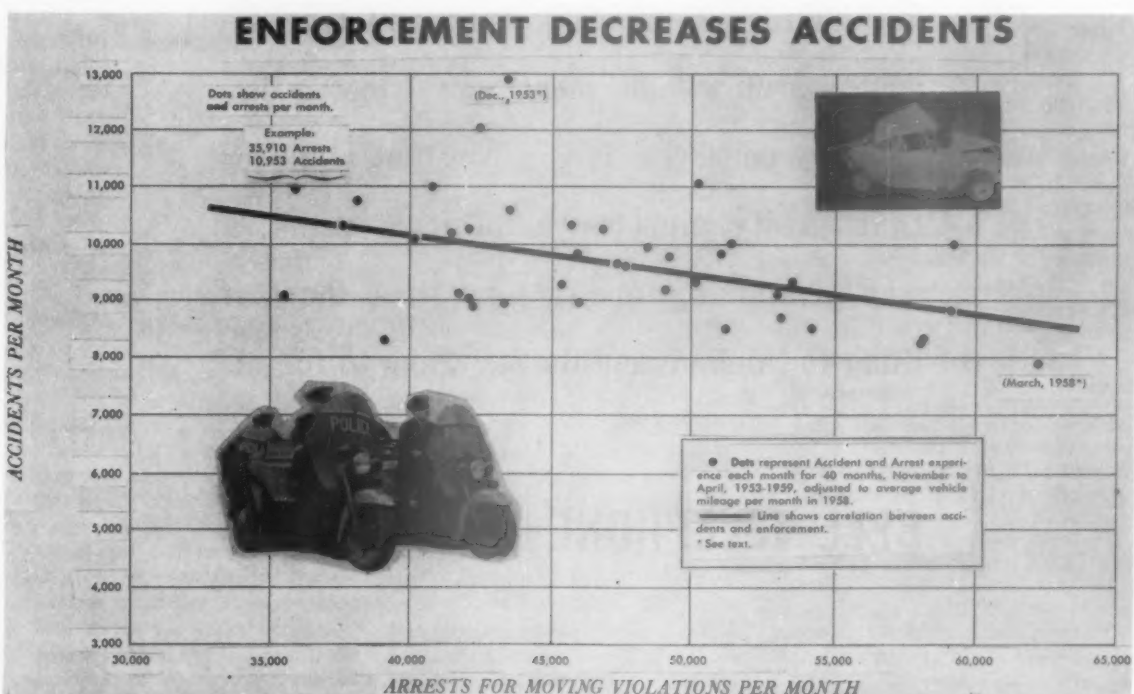
While the dots are scattered, the "star map" pattern is probably due to the influence of weather, road conditions and differences in types of violations selected for enforcement emphasis.

Some dots are placed outside the general field. These are "mavericks" and indicate months when accidents were influenced more than average by factors other than enforcement.

Farthest deviations from the pattern were in December 1953 and December 1958, when precipitation throughout both months was far above normal and streets were icy and slippery.

December 1953 had the highest accident rate, and only 13 other

—To page 108





Ansul people are proud of the D-MODEL dry chemical extinguishers. These cartridge-operated units combine peak fire-killing power with the important advantages of on-the-spot, field recharge and "fresh-fill" performance. They are available in 5, 10, 20 and 30-pound sizes . . . in either red or white. We'd like to tell you more about the D-MODELS and prove their effectiveness to you. Make an appointment with your Ansul fire protection consultant or write for our latest catalog. **ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN.**

new products, new ideas for better fire protection.



REFRIGERATION PRODUCTS
FIRE FIGHTING EQUIPMENT
INDUSTRIAL CHEMICALS

CONSULTATION CORNER



Questions on accident prevention, fire protection and occupational hygiene are answered by mail. A few are selected for publication

By L. C. SMITH, Industrial Department, NSC

Toxicity of 1,1,1-Trichloroethane

Question: We are presently using the chemical solvent 1,1,1-trichloroethane in our department which is part of an aircraft plant. Some employees have complained of nausea, headaches, and periods of dizziness. Can you supply us with any information concerning the toxicity of this material and information as to proper handling?

Answer: Commercial 1,1,1-trichloroethane (methyl chloroform) is one of many available chlorinated hydrocarbons. Uninhibited 1,1,1-trichloroethane will readily corrode aluminum and aluminum alloys. Inhibited 1,1,1-trichloroethane, which is available under several names, may be used in contact with aluminum. It is used for cold cleaning, such as dip cleaning, wipe cleaning, spray cleaning, and electrical equipment cleaning.

However, you didn't describe how this solvent is being used by your employees. Evidently, since they are experiencing nausea and headaches, they must be exposed to large concentrations.

The maximum acceptable concentration for 1,1,1-trichloroethane is 500 ppm, according to the American Conference of Governmental Industrial Hygienists. If the solvent is not heated above room temperature, general ventilation would maintain that value for a small exposure, as when used for bucket cleaning of small parts. If a large area of solvent is exposed, local exhaust ventilation should be provided.

It may cause dermatitis after prolonged contact with the skin, but

contacts of short duration should not cause skin irritation. Synthetic rubber or plastic-coated gloves should be worn to avoid prolonged contact with the skin.

No special precautions are required so far as electrical equipment is concerned. Some electrical insulation may be harmed by prolonged immersion.

In bulk storage this solvent should be protected from moisture and it should not be stored in aluminum.

The best way to determine the extent of exposure is to take samples at the breathing zone of the workers and analyze these samples. There are instruments on the market that can be used to analyze atmospheres containing chlorinated hydrocarbons.

One Man, or Two, For Handling Drums?

Question: We handle a large number of 55-gal. drums filled with various products. Much of the handling is done by mechanical equipment, but on some occasions the drums have to be handled manually. On these occasions the employees insist it should be done by two men. What information do you have on this subject?

Answer: Naturally, whenever possible it is desirable to have two men handle a drum. However, there are times when only one person is available for such work. Whether the handling is done by one or two men, proper training is necessary to keep the person from being injured.

The job can be done safely by one person, providing this person is properly trained. Proper lifting tech-



Start lifting in this position, back straight, knees as close together as possible, with smooth, steady action.



Follow through like this, back still straight, knees as close as space allows, even force. Better still, get a mechanical lifting device.

niques must be employed to upend or tip a drum. Smashed fingers, broken arms and legs, mashed toes, and strained backs can result from improper handling.

The National Safety Council has a slide film on drum handling that illustrates proper techniques for the manual handling of drums by one person.

Amazing "Torture Test" gives PROOF POSITIVE!

BEFORE



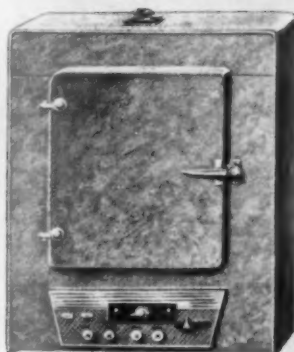
CHEMIGUM



BRAND X



BRAND Y



AFTER



CHEMIGUM



BRAND X



BRAND Y

To test the oil-absorption resistance of Chemigum and competitive brands, equal-sized strips of Chemigum and two other soling materials were selected. Brands X and Y were samples of "oil-resistant" soling now used on nationally advertised brands of safety shoes.

The three strips were then immersed side by side in diesel oil and "cooked" in an oven at 100° F. continuously for 24 hours. This sustained heat subjected the materials to a real torture treatment that permitted maximum absorption of the heated diesel oil.

After removal from the oven and the heated diesel oil the Chemigum strip had expanded only a small fraction. The strip of Brand X soling swelled 2.17 times as much as Chemigum. The Brand Y material swelled 2.26 times as much as Chemigum.



New CHEMIGUM OIL PROOF SOLES

The "torture test" tells the story: Chemigum is far superior in rejecting oil absorption. That's why shoes soled and heeled with Chemigum are far and away the safest for use in every factory where oil drippings present underfoot dangers. What's more, CHEMIGUM Oil Proof Soles have an "engineered tread" for sure-grip, non-slip walking even on floors cluttered with steel chips and other factory debris. And, in addition, they're long-wearing for true economy.

Leading manufacturers of all types of safety shoes are replacing old-style soles with these remarkably safer CHEMIGUM Oil Proof Soles. For safety's sake, always specify CHEMIGUM Oil Proof Soles!

CHEMIGUM Heels are made of the same sensational oil proof material as CHEMIGUM Soles.

Watch the award-winning GOODYEAR THEATER on TV every other Monday evening

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MR. NEOLITE SAYS:
"We're proud to bring you another pioneering product of GOODYEAR research."

COMING EVENTS



in safety and related fields

April 4-5, Toronto, Canada

Industrial Accident Prevention Associations Annual Conference (Royal York Hotel). R. G. D. Anderson, general manager, IAPA, 90 Harbour St., Toronto 1, Ont., Canada.

April 5-7, Pittsburgh, Pa.

Thirty-fifth Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Pittsburgh Hilton Hotel). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, 305 First Federal Building, 600 Grant St., Pittsburgh 19, Pa.

April 11-13, Los Angeles, Calif.

Seventh Annual Western Safety Congress and Exhibits (Ambassador Hotel). Joseph M. Kaplan, manager, Greater Los Angeles Chapter—National Safety Council, 3388 W. 8th St., Los Angeles 5, Calif.

April 12-14, Detroit, Mich.

Michigan State Safety Conference (Sheraton Cadillac Hotel). Ben Duguid, c/o All State Insurance Company, Box 5300—Seven Oaks Station, 16130 Northland Dr., Detroit 35, Mich.

April 12-14, Buffalo, N. Y.

Twentieth Western New York Safety Conference and Exhibit (Hotel Statler-Hilton). Clifford H. Seymour, Western New York Safety Conference, Box 315, Niagara Falls, N. Y.

April 19-21, Columbus, Ohio

Thirtieth All-Ohio Safety Congress and Exhibit (Neil House). Arthur W. Moon, Congress manager, Third Floor, 400 S. Front St., Columbus 15, Ohio.

April 27-28, Indianapolis, Ind.

Thirteenth Central Indiana Safety Conference and Exhibit (Claypool Hotel). Jack E. Gunnell, Indianapolis Chamber of Commerce Safety Council, 320 N. Meridian St., Indianapolis 11, Ind.

April 27-29, Gainesville, Fla.

Seventh Annual Conference on Accident Prevention Engineering (Uni-

versity of Florida). Donald B. Wilcox, conference coordinator, U. of Florida, College of Engineering, Gainesville, Fla.

April 28-30, Aberdeen, Wash.

Forest Products Safety Conference (Morck Hotel). Kenneth MacDonald, publicity chairman, c/o Simpson Logging Co., 2301 N. Columbia Blvd., Portland 17, Ore.

May 2-4, Bethlehem, Pa.

Thirty-third Annual Eastern Pennsylvania Safety Conference (Hotel Bethlehem). Harold A. Seward, secretary-treasurer, Lehigh Valley Safety Council, 602 East Third St., Bethlehem, Pa.

May 4-6, Winston-Salem, N. C.

Thirtieth Annual North Carolina Statewide Industrial Safety Conference (Robert E. Lee Hotel). H. S. Baucom, director of safety, North Carolina Industrial Commission, Raleigh, N. C.

May 5, Watertown, Wis.

Rock River Valley Conference. R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 1 West Wilson St., Madison, Wis.

May 5-7, Richmond, Va.

Twenty-sixth Annual Conference of the Virginia Safety Association (Hotel John Marshall). Hiram M. Smith, Jr., Virginia Safety Association, 2501 Monument Ave., Richmond 20, Va.

May 12, Seattle, Wash.

Fourth Annual Puget Sound Industrial Safety Conference and Exhibit (Olympic Hotel). Ray A. Norwood, Seattle-King County Safety Council, 304 Spring St., Seattle 4, Wash.

May 17-18, Omaha, Neb.

Executive Committee, Public Utilities Section, NSC (Sheraton-Fontenelle Hotel). E. Dunbar, 929 E St. N.W., Washington, D. C.

May 18-19, Tulsa, Okla.

Twelfth Annual Oklahoma Safety Conference (Mayo Hotel). Bob Eastman, manager, 1600 NW 23, Oklahoma City, Okla.

May 18-20, Cincinnati, Ohio

Fourth Annual Industrial Mutual Aid and Disaster Control Conference (Netherland Hilton Hotel and Evendale Municipal Center). Evendale Mutual Aid, P. O. Box 151, Cincinnati 15, Ohio.

June 9, Rhinelander, Wis.

Wisconsin River Valley Conference. R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 1 West Wilson St., Madison, Wis.

June 16, Oshkosh, Wis.

Fox River Valley and Lakeshore Conferences. R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 1 West Wilson St., Madison, Wis.

June 19-22, Ithaca, N.Y.

Seventh National Conference on Campus Safety (Cornell University). Francis J. Quinlan, Campus Safety Association, c/o Division of Safety, Cornell University, Ithaca, N.Y.

Oct. 17-21, Chicago.

Forty-eighth National Safety Congress and Exposition (Conrad-Hilton Hotel). R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Oct. 26-27, Pittsburgh, Pa.

Twenty-fifth Annual Meeting, Industrial Hygiene Foundation. Dr. H. H. Schrenk, managing director, 4400 Fifth Ave., Pittsburgh 13, Pa.



"Any last words, Milton?"

PULMOSAN RESPIRATORS

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Pick the most efficient, economical, serviceable unit for your need from this complete Pulmosan respirator line!

ALL-PURPOSE C-200 Series.....



One respirator body—with interchangeable filters—U.S.B.M. Approved—cuts costs! Stock just one basic respirator with single filter retainer cup. Select interchangeable filters to meet any or all hazards for which respirators are recommended. Filters thread instantly into retainer cup. Molded plastic clip-cap is supplied with cartridge and pre-filter combination units. All cartridges and pre-filters are independently replaceable.

NEW G-W DUST FILTER — with gradient micro-web pores — reduces clogging, filters better, lasts longer, breathes easier. Available with C-200 Series and L-800 Series (below).

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- *All Dusts
- Radioactive Dusts
- *Mists
- Light Smoke
- *Organic Vapors and All Dusts
- Paint Spray
- *Organic Vapors
- Ammonia
- *Fumes
- Acid Gases
- †Insecticides

ALL DUST L-800 Series.....

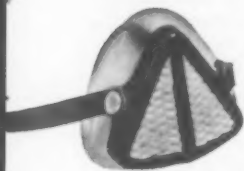
A lightweight basic assembly—with many choices of filters and cartridges! The basic respirator assembly with single filter cup is used in conjunction with: a group of approved throw-away and reusable filters for various dusts and mists—a group of chemical cartridges for low concentrations of gases and vapors—a combination of dust and mist filters with chemical cartridges. You select the filters and cartridges to meet your special problems.



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- *Pneumoconiosis Producing Dusts
- *Nuisance Dusts
- Low Concentrations of Gases and Vapors
- Combination of Dusts + Gases or Vapors

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NEW Respirette, PM-3 for nuisance dusts and paint overspray. Lightweight, compact, low-cost. Weighs less than one ounce. One-size plastic body fits all faces, permits wearing of spectacles. Washable, non-irritating. New throw-away filters are easily replaceable, inexpensive, efficient.

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MA3C — Flyweight chemical cartridge respirator for low concentrations of gases, vapors, and paint spray. Equipped with clip-cap and felt pre-filter.

..STOPS

- Nuisance Dusts
- Paint Overspray
- Gases, Vapors
- Paint Spray

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†Accepted by U. S. Bureau of Entomology and Plant Quarantine.

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Safety Leaders Honored By Williams Medals

By **HERBERT J. STACK**

Center for Safety Education, New York University, and Esso Safety Foundation

IN 1942, the American Museum of Safety established the Arthur Williams Memorial Medal Awards. These awards had been made possible through the will of Arthur Williams, first president of the American Museum of Safety. Gold medals and citations were to be awarded each year to the individual who had made an outstanding contribution to the safety movement.

Since 1942, 20 have been so honored, the 1960 award going to Thomas N. Boate, manager of the Accident Prevention Department of the Association of Casualty and Surety Companies. The presentation was made at the March dinner of the Greater New York Safety Convention.

Mr. Boate's contributions to highway safety extend over a 30-year period, from the time he was trooper in the Pennsylvania State Police. He rose to the rank of captain and judge advocate in charge of the Police Division, retiring in 1944. Since that time he has been a national leader in traffic safety, both in his service on national committees and as manager of the Accident Prevention Department of the Association of Casualty and Surety Companies.

The 20 awards have been well distributed in the various areas of safety. Nine have gone to leaders in industrial safety, including two in railroad and one each in air and water transport. Five have been awarded to leaders in traffic safety, one in safety education, and the remaining five in general safety. Sidney Williams, for example, belonged to no one field; he contributed to all.

Nearly all of the recipients have been active in the National Safety Council, as members of the Board of Directors, the Trustees, and as chairmen of committees and conferences. One, Colonel John Stilwell,

served as president. Fourteen are still living, and many are still actively engaged in some field of safety.

Recipients to date are:

1942. *Rear Admiral Emory S. Land, W. Averell Harriman, and E. Roland Harriman.* Three men were honored during this war year: Admiral Land for his leadership while head of the U. S. Shipping Board; W. Averell Harriman for his work in railroad safety; and E. Roland Harriman for his efforts while president of the American Red Cross.

Averell Harriman, while governor of New York, continued his interest in safety by his strong support of industrial and traffic safety programs. The Harrimans also established the annual Harriman Awards for Safety on American railroads.

1943. No awards.

1944. *Charles E. Carlson* was president of the Duluth-Messabi Railroad and a staunch advocate of railroad safety.

1945. *John Stilwell* was for several years president of the National Safety Council, and now serves on its Board of Trustees. He was vice-president of Consolidated Edison until April 1951, when he retired, and now lives in Yonkers, N. Y.

1946. *Frank L. Jones* was president of the Greater New York Safety Council and vice-president of the Equitable Life Assurance Society. He was active in all fields of safety until his death.

1947. *Thomas H. MacDonald* was for many years commissioner of the Bureau of Public Roads in Washington. It was through his efforts that the federal program for highway construction and improvement was organized. After retiring 10 years ago, he served as professor of Highway Engineering at Texas A and M College, a position he held until his death.

1948. *Julien H. Harvey* was long a member of the staff of the National Safety Council and afterwards became executive vice-president of the Greater New York Safety Council. Following this, he became manager of the Accident Prevention Department of the Association of Casualty and Surety Companies. On his retirement he lived

in New Canaan, Conn., until his death March 1, 1960.

1949. *Franklin M. Kreml* is one of the national leaders in traffic safety and transportation. He is now director of the Transport Institute at Northwestern University.

1950. *Arthur V. Rohweder* was for many years safety director of the Duluth-Messabi Railroad, president of the Minnesota Safety Council, and a member of the Board of Directors of the National Safety Council. He was a national leader in railroad safety until his death in 1959.

1951. *Rudolph F. King*, at the time he received the award, was registrar of motor vehicles in Massachusetts. He was also chairman of the President's Highway Safety Committee and active in the American Association of Motor Vehicle Administrators until his retirement two years ago.

1952. *H. William Heinrich* was for many years in the Engineering and Loss Control Division of the Travelers Insurance Company. On retiring from Travelers in 1956, he became president of the Uniform Boiler and Pressure Vessel Laws Society, Inc.

1953. *Jerome Lederer* is now managing director of the Flight Safety Foundation and the Cornell-Guggenheim Aviation Safety Center in New York. He is internationally known for his work in flight safety.

1954. *Sidney J. Williams* was one of the great national leaders in the safety movement. His contributions as a member of the staff of the National Safety Council and on dozens of national committees were strong influences in the expansion of the safety movement. His death in 1956 was a great loss.

1955. *Herbert J. Stack* retired as director of the New York University Center for Safety Education in 1957, but continued as program associate on the Center staff. He is also a consultant for the Esso Safety Foundation and the American Association for Health, Physical Education and Recreation. He has been a member of one or more committees of the National Safety Council for 27 years.

1956. *William F. Brown* is director of Safety Services for Consolidated Edison Company of New York. He has been active for more than two decades in the National Safety Council and the Greater New York Safety Council, of which he is now vice-president for industry.

1957. *John J. Hall* began his work in safety 33 years ago as a member of

—To page 62



**safe
footing...**

A.W. ALGRIP abrasive flooring

No slips, slides or skids with A. W. ALGRIP flooring. It's the world's *only* rolled steel abrasive floor plate, and an important aid to plant safety.

A. W. ALGRIP rolled steel floor plate is produced by Alan Wood Steel Company by a patented process in which an abrasive—just like the kind that is used in grinding wheels—is embedded to a specific depth. It becomes an integral part of a tough steel plate.

A. W. ALGRIP can be used as independent flooring . . . or as flooring overlay. Put your plant on a safe footing, with A. W. ALGRIP . . . Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S1.



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PERSONALS

News of people in safety and related activities

BYRON M. OYSTER, safety engineer for Weyerhaeuser Company, has retired for reasons of health. He has been succeeded by LOUIS B. HOELSCHER, assistant training director.

Mr. Oyster began his career with Weyerhaeuser Company as personnel director and safety engineer at the Longview branch. He took over direction of company-wide safety activities in 1942. He has been active in the American Society of Safety Engineers, the Veterans of Safety, and the National Safety Council.

Mr. Hoelscher, a graduate of the University of Minnesota, joined Weyerhaeuser as a survey crew member at Klamath Falls, Oregon, in 1941. From 1946 to 1953, he served as assistant branch forester, and in other woods operation capacities at Coos Bay, Oregon branch. He was training coordinator and assistant administrator at Tacoma before becoming safety engineer.

* * *

BOB COCHRANE has been appointed director of training and safety for Fruehauf Trailer Company, Detroit. He will have charge of installation and maintenance of safety programs in all company plants and branches.

Since joining Fruehauf in 1950, he has served in the safety and labor departments in Detroit and as regional industrial relations manager at Fort Wayne, Ind.

MEL DARROW, formerly personnel manager for Butcher & Hart Manufacturing Company, Altoona, Pa., has replaced Mr. Cochrane at Fort Wayne.

* * *

JEROME T. SIEDLECKI recently joined the National Safety Council as director of Industrial Hygiene. He will also serve as staff representative for the Chemical Section. Mr. Siedlecki has had experience in industrial hygiene with American Brake Shoe Company and with Zurich Insurance Company.



Jerome T. Siedlecki

He is a graduate of Northwestern University where he received a bachelor's degree in Chemistry, and of DePaul University where he received his master's degree in Chemistry.

During World War II Mr. Siedlecki served in the Chemical Warfare Service.

He is a member of the American Industrial Hygiene Association and the American Chemical Society.

* * *

BRUCE M. BAIRD has moved from the position of safety director, U.S. Army Chemical Corps, Research and Development Command, to that of radiological facilities project officer, Department of Health, Education and Welfare, Public Health Service, Division of Radiological Health.

His headquarters will remain in Washington, D.C., although he has been temporarily designated officer in charge, Southeastern Radiological Health Facility, Montgomery, Ala., as an added duty. His primary responsibility is the administrative direction of the radio-chemical laboratory facilities of the division presently located at Montgomery, Ala.; Las Vegas, Nev.; and Rockville, Md.

Mr. Baird was employed at Rocky Mountain Arsenal, Denver, Colo., before moving to Washington, D.C. He is a graduate of the University of Oklahoma, a licensed professional engineer in Washington, D.C., and has been a member of the ASSE since 1945.

BERNARD L. TAYLOR, former safety director, Headquarters Seoul Area Command, Korea, has been named by Headquarters First United States Army to be safety program administrator and assistant to the First Army safety director at Governor's Island, N. Y.

During the past seven years Mr. Taylor performed safety assignments for the U. S. Army in the Far East. He is a graduate of New York University's safety course and of Northwestern University's Traffic Institute.

Mr. Taylor is a former master sergeant, serving in the Army from June 1939 to March 1953. Prior to entering military service, he was employed by the Paterson News and as a field safety supervisor for the Kadel Construction Company.

Appoint Chairmen for NFPA Committees

The National Fire Protection Association announces the appointment of new chairmen for six of its technical committees.

J. T. Blackmon, Jr., Union Carbide Nuclear Co., Oak Ridge, Tenn.—committee on Ovens and Furnaces.

J. M. Church, Department of Chemical Engineering, Columbia University—committee on Wearing Apparel.

S. Cowan, Factory Insurance Association, Charlotte, N. C.—committee on Machine Tool Electrical Standards.

J. O. Ford, Nationwide Mutual Insurance Co., Columbus, Ohio—committee on Trailers and Trailer Courts.

R. A. Pedersen, associate manager, Washington Surveying and Rating Bureau, Seattle—committee on Piers and Wharves.

C. C. Westmoreland, Southern California Gas Co., Los Angeles—sectional committee on Utility Gas of the committee on Gases.

The 110 technical committees of the NFPA develop and revise codes and standards which are widely adopted as fire safety guides throughout the United States and Canada. More than 1000 experts serve on these committees, representing every possible interest.



Plant next?

If you've ever thought that this couldn't happen to your plant, a few facts may quickly change your mind. It can and *does* happen to 305 industrial plants every day! Staggering? — so are the losses, \$52,260,000 worth every year.

But your plant needn't be chalked up as just another statistic! You can do something about it!

First, let's consider the cause of such large loss fires. It's a known fact that one of the main reasons small fires become blazing infernos is — *the delay in reporting the discovery of a fire or immediate notification to the local fire department.* The chart below is a grim, factual reminder of

What happens when an alarm is delayed*

Property	Minutes Delayed	Reason for Delay	Loss†
Crochery	1	Could not find alarm box	\$75,000
Woodworking plant	2	Discovered by passerby	\$101,000
Wire & cable plant	3	Employee tried to extinguish	\$395,000
Ore refinery	4	Employee tried to extinguish	\$250,000
Lumber yard	5	Employee tried to extinguish	\$150,000
Rubber plant	6	Fire destroyed telephone	\$100,000
Builder warehouse	7	Telephone alarm, wrong address given	\$55,000
Metalworking plant	8	No alarm system	\$245,000

*Includes loss of buildings, material and equipment, but not loss of business records and other intangibles.

What you can do

Provide your plant with *complete* protection with a Gamewell FLEX-ALARM system that *identifies* the *zone location* of the fire, and one that can be *directly connected* with the *Municipal Fire Department*.

A FLEXALARM system can be pre-engineered to meet the precise needs of your plant. FLEXALARM is available as a coded or non-coded system, semi or completely automatic, with practically limitless possible combinations of annunciators, special drill, test and alarm features. For example, it can be tied into the

municipal alarm system at the curb; integrated with the sprinkler system; or automatic fire detection devices. It's simple to specify, easy to install, efficient and economical.

Specify Gamewell . . . for maximum protection at minimum cost. Write THE GAMEWELL COMPANY, 1300 Chestnut St., Newton Upper Falls 64, Massachusetts.

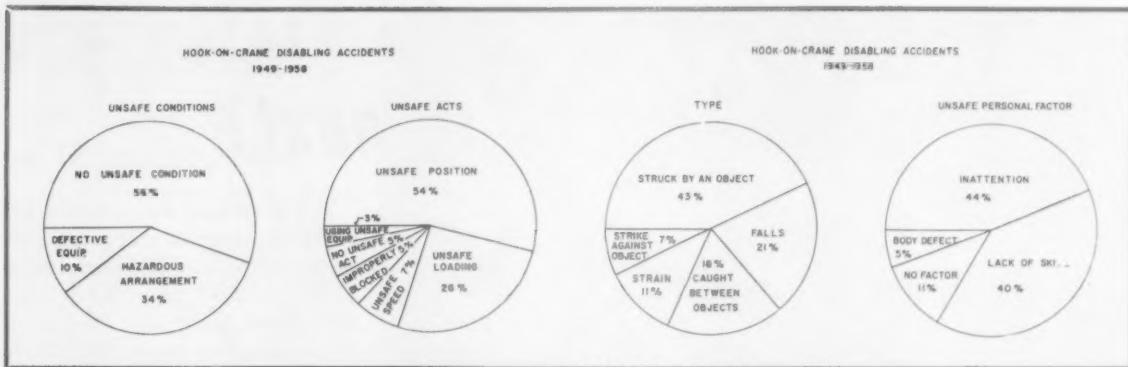
*Facts on chart, itemized by The Gamewell Company, were taken from an article entitled "The Easiest Help Your Competitor Ever Got," in the May-June, 1959, issue of MODERN PLANT AND OPERATION MAINTENANCE. Reprints of this article may be obtained by filling out the coupon.

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FIRST...WHEN SECONDS COUNT

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Newton Upper Falls 64, Mass.

- ☐ Have a Gamewell Fire Protection Engineer call.
- ☐ Send me a Gamewell Fire Alarm System Planning Guide.
- ☐ Send a reprint of article "The Easiest Help Your Competitor Ever Got."

Name.....
Title.....
Firm.....
City..... Zone..... State.....



Bigger Loads

—From page 21

More than half the accidents resulted in broken or crushed bones or amputation of body members. The feet and legs were involved in more than half the injuries. Most of the amputations, however, occurred to hands when the hook-on man failed to keep them clear of the load when it was being lifted or set down.

It is sometimes difficult to teach men to keep their hands off the sling when slack is being taken up on the ropes, or to keep their hands from under the load when it is suspended. But when you can reach into your experience to produce actual people with crushed or amputated members, the problem of convincing learners to keep their hands in the safe area becomes somewhat easier.

When we compare unsafe conditions with unsafe acts, the importance of controlling the human factor becomes apparent.

Hazardous arrangements contributed to about one-third of the accident total. When using this fact as a training aid, orderly housekeeping

should be stressed. Teach hook-on men to arrange material in a safe and orderly manner as they set it down. This saves them time and effort. Teach them to report defective equipment to their supervisors at once.

Unsafe acts provide several keys as training aids. Fifty-four per cent of the cases involved the injured employee taking an unsafe position. This means that some part of his body was exposed to some movement of the load—being struck by it, caught under it, striking against it, or being caught between the load and some other object.

One of the most important considerations is to teach the hook-on-crane man to coordinate his movements with the movements of the crane so he is in a safe position at all times. Skilled hook-on men have learned this lesson. They take a safe position before ordering the crane to move.

Unsafe loading was responsible for 26 per cent of the disabling injuries. Correction of these unsafe work practices can be accomplished only by teaching the man how to use his equipment. This requires a capable instructor.

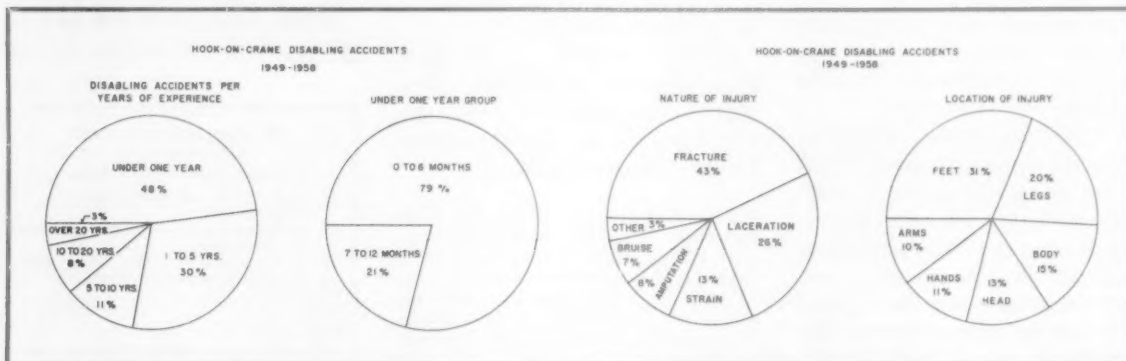
Unsafe speeds accounted for only 7 per cent of the total number, but some of our most serious accidents resulted from too much haste. When handling parts weighing 50 tons and worth \$50,000, haste makes waste.

Safe storage is an important feature of hook-on-crane work. When a part is set down, it must be blocked or otherwise supported so it will not shift or topple when the crane is unhooked. The hook-on man must be taught to block his job securely before unhooking.

Types of accidents. Most of our hook-on-crane injuries resulted from contact with objects—the workman being struck by an object (43 per cent), caught between objects (18 per cent), and striking against an object (7 per cent).

Falls accounted for 21 per cent of hook-on-crane accidents. Much of our work involves lifting heavy, bulky parts for large water wheel generators and large steam turbine generators. Many times the hook-on-crane man must climb up to a bulky part six or eight feet above floor level to make a hook-up or to unhook a load. He must be taught to use safe climbing equipment.

—To page 62





WEED AND GRASS KILLERS



WEEDS ARE A HAZARD YOU CAN'T AFFORD! Get rid of the danger chemically with low-cost GARLON

Tinder-dry weeds clustered around a tank car full of flammables. That's an expensive target for a carelessly flipped, burning cigarette. And when the raging blaze follows, all the modern fire prevention measures inside the plant won't keep the flames out.

Garlon*, a modern chemical killer, knocks out dangerous weed and grass problems the low-cost way. Spray the actively growing foliage, and Garlon goes to work systematically—kills the whole weed or grass plant—roots and all! And you can use Garlon at your convenience *any time* during the growing season.

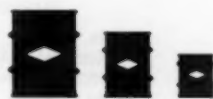
Simple to use, Garlon needs only to be mixed well with the recommended amount of water, and it's ready for spraying. Your crews can readily do the job—or a professional spray contractor will do it for you.

For all troublesome areas—sidings, docks, fences, ditches, parking lots, outdoor storage areas—the use of

Garlon minimizes labor, immediately cuts your weed and grass control costs. Best of all, it cuts them *more each year*, because fewer spray applications are required.



Hand-cutting costs stay constant from year to year



Chemical maintenance costs actually diminish each year

Learn more about how modern chemical vegetation control can save money for your company. Write THE DOW CHEMICAL COMPANY, Agricultural Chemicals Sales, Dept. 209CX4, Midland, Michigan.

*TRADEMARK

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

Personal factors. Inattention and lack of skill contribute to 84 per cent of the disabilities among hook-on-crane men. This shows the need for alerting these men to the hazards of the job and the importance of keeping their minds on what they are doing. The study also brings out the need of teaching them the necessary job skills.

The need for training becomes more apparent when attention is given to the length of time worked on the hook-on-crane operation by those injured.

Over the 10-year period, (1949-58) nearly half of the disabling injuries involved men with less than 5 years' experience.

Examination of the records of those with less than one year's experience showed:

79 per cent had 0 to 6 months' experience.

21 per cent had 7 to 12 months' experience.

This experience has convinced us of the need for strengthening our training program. Material-handling safety may be:

1. Taught as a special subject by a safety engineer.
2. Integrated into job training by the foreman, group leader, or instructor.

Each method has its place.

Preferably, the trainee should learn safety as a part of his job training. This may be done entirely on the job. However, there is merit in making part of the training formal, with classroom instruction followed by application of the principles on the job.

Many companies have found a need for hook-on-crane training programs. An excellent program now being promoted by the Wire Rope Division of Jones & Laughlin Steel Corporation at Muncy, Pa., uses a model crane with scale models of the pieces to be handled. In the class, the trainee observes the actual job being performed in miniature. He is shown how to select the right sling, how to hook up the load, how to use lifting accessories, how to turn the job over, and how to move the work safely.

By use of model equipment, he observes the hazards of the job, and is taught how to deal with them. To be fully effective, this program must be projected into the actual shop situation where the man learns and demonstrates the skills taught.

The safety engineer may supplement the crane-handling safety training program by periodic examinations of the hook-on men to see that principles are understood and practiced. These check sessions should be given at least annually to new personnel.

The examination may take the form of a true-or-false quiz. It may require demonstration of the use of crane signals, or it may cover selection of the type and size of lifting equipment for a job.

If crane handling is important in your industry, it will pay to take a forward look to determine whether or not present handling facilities and methods are adequate to meet new requirements.

Many fine training programs have been developed by safety engineers. The National Safety Council can furnish training aids covering various material-handling subjects. To get the best results, however, I recommend tailoring your program to fit your own needs.

keeps lenses



safety clear and



free of fog!

ALPENCO LENS CLEANER AND ANTI-FOGGING LIQUID

No. 10 unit
Illustrated \$4.25
each. 6 or more
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One easy application in a "combination" liquid. Quickly cleans off dirt, grease and grime; prevents fogging in the hottest, steamiest areas. Heavy duty wall unit for plant use; 4 oz. squeeze spray bottles for individual use.

For Safety and Prescription Glasses • Faceshields • Hoods • Helmets • Inside of auto, truck, bus and train windshields • Windows • Mirrors • Refrigerated Showcases—glass, plastic and metal . . . All surfaces subject to steaming and fogging.

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safety equipment co.

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Williams Medals

—From page 56

the staff of the National Bureau of Casualty and Surety Underwriters. He is now director of the Esso Safety Foundation, which is supported by the Esso Standard Division of Humble Oil and Refining Company.

1958. *Dr. William P. Yant* is director of research for the Mine Safety Appliance Company of Pittsburgh. For many years he has been one of the leaders in industrial safety in the United States. He is also a member of the Board of Directors of the National Safety Council.

1959. *John A. Dickinson*, sometimes known as "Mr. Elevator Safety," could well be called "Mr. Safety Standards." For 41 years he was a leader in the National Bureau of Standards in Washington, and aided in the development of many standards and codes that have contributed to industrial, transportation, and home safety. He is now an engineering consultant in Bethesda, Md.

1960. *Thomas N. Boate*

FOR SURE, SCIENTIFIC PROTECTION
AGAINST INDUSTRIAL SKIN HAZARDS,
SAFETY ENGINEERS SPECIFY

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THE MIRACLE SECOND SKIN OF INDUSTRY

Thousands of users in every field of industry! A powerful shield against hundreds of industrial irritants!

"Kerodex" spreads like a cream; acts like an invisible glove. Won't smear, and won't affect—or be affected by—materials handled.



"KERODEX" 51 FOR DRY WORK

Protects against liquid and solid irritants not soluble in water. When washed off, expansion action provides "lift" that pushes particles and irritants away from the skin.

"KERODEX" 71 FOR WET WORK

Protects against water and water-soluble irritants. Hands may be washed while wearing Kerodex 71 because this cream does not wash off but gradually wears off.



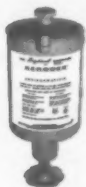
NEW USES FOR "KERODEX" ARE DISCOVERED BY WORKERS, PLANT MANAGERS, ENGINEERS... ALMOST EVERY DAY!

Protects against acids, solvents, paints, cutting oils, resin.
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EASY TO APPLY!

Just spread "Kerodex" lightly and evenly, rubbing hands together until cream is absorbed by the skin. Spread around wrists, between fingers, into the cuticles and under the nails. For heavy work, apply second coat in the same way.

Protect your company against
costly insurance claims,
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production delays!



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CONVENIENT BRIGHTWELL
WALL-DISPENSER

PLEASE USE COUPON OR SPECIFY IN-PLANT TESTING OFFER ON PURCHASE ORDER

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FOR MORE EXTENSIVE TESTS IN DEPTH — A MONEY-SAVING OFFER

- ☐ 6 1-lb. tins "Kerodex" 51 for dry work and 6 1-lb. tins "Kerodex" 71 for wet work.
Both for \$25.00

A \$12.50 VALUE — FREE! A BRIGHTWELL WALL-DISPENSER WITH EVERY 32 LBS. ORDERED! DISPENSES INDIVIDUAL APPLICATIONS

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You don't dare to judge...



...until you've matched specific pieces of safety equipment you are now using against their Safe-Hi counterparts—test by test. I challenge you to do this! If your present equipment holds up, safety-wise where Safe-Hi equipment fails, I will pay you double the purchase price of your equipment. If your present equipment fails where Safe-Hi Equipment holds up, you are under no obligation—save your moral obligation to equip your men with the best safety equipment available.

To arrange for such tests*—at our expense—write to me direct. Take me up on this challenge! You risk nothing—yet you may save employees' lives. Write me today!

Clarence W. Rose MA

*These tests to be conducted under agreed prearranged conditions and under your control.

Member—American Society of Safety Engineers.
Veterans of Safety

The Case of the Ladder that

reached the roof...wrecked the roofer!

Just as the worker neared the roof's edge, the base of his ladder slipped—taking the worker for a one-way trip to hard cement below. His smashed knee and twisted knee, caused by slippery, wet cement, could have been avoided—if the ladder had been equipped with safe shoes!

Safe-Hi Neoprene Tread Ladder Shoes

hold on dry or wet floors, giving engineered protection to the man on the ladder. Neoprene fibre-impregnated tread, listed by UL for all surfaces, has the advantage of Neoprene for dry floors and fabric on wet floors. A self-sharpening spike for use on snow or ice is instantly available and may be flipped in place by hand or foot. Tread ridges across the line of slippage, scrape off oil or dirt and increase traction—for the save-ability important to anyone who mounts a ladder! SAFE-HI Safety Equipment is safe—just as safe as continuing research and a lifetime of experience can make it. Complete information on Safe-Hi Ladder Shoes, Lanyards, Shock Absorbers, Belts...yours FREE. Just write for catalog.

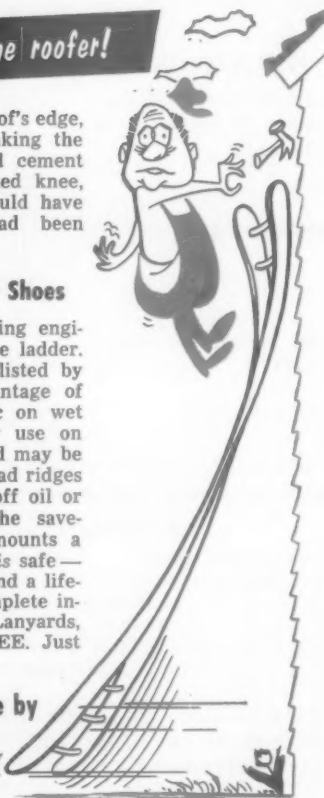
Safe-Hi Safety Equipment is made by

rose manufacturing co.

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RO-6

2700 W. BARBERRY PLACE • DENVER, COLORADO



What Type of Glove?

—From page 37

treated in strictest confidence. In the interest of better protection and lower glove replacement costs, we encourage prospective users to consult us for specific recommendations as early as possible before their product gets into the mass production stage.

Testing services, available from most glove manufacturers at no charge to the user, are offered in several forms. If the chemical is already on the market, it need merely be identified along with the request for glove recommendations.

If the chemical is not readily available to the glove manufacturer, it is necessary to submit a sample with which tests can be conducted. In this case, the glove manufacturer turns the problem over to his laboratory which conducts a series of comprehensive tests to determine which of the available glove materials will provide the best service for the exposure.

Although chemical resistance is the most important single factor in glove selection for many operations, other performance factors must be evaluated. Will the product to be handled require a high degree of touch sensitivity? Will it be highly abrasive or have sharp edges which could easily puncture a thin, touch-sensitive glove?

Suppose the job situation requires the worker to handle small precision parts in a highly toxic solution. With a thick, reinforced glove, he will probably spend most of his time fumbling with objects because he lacks touch sensitivity. In this case, he should be supplied with the thin-



Surgical-type gloves of tissue-thin latex permit maximum touch sensitivity.



When handling sharp-edged objects, where hands must be protected against cuts as well as against toxic chemicals, puncture-resistant gloves are needed.

nest possible gloves consistent with safety.

In other situations, where the worker must handle highly abrasive materials, he will make out better with gloves that are heavier or reinforced at wear points, even though he has to sacrifice some touch sensitivity.

When in doubt about any of these questions, it is always a sound practice to check with your glove supplier. This is especially true when selecting gloves for new applications. But it is equally important if you are experiencing worker dissatisfaction with the gloves they are now wearing or if glove costs seem higher than they should be.

The responsibility of the glove manufacturing industry is to provide dependable hand protection at lowest cost. With improved formulations, materials, and designs, today's industrial gloves are capable of providing better protection than ever before.

To realize these benefits, gloves must be selected on the basis of function. Responsible glove manufacturers retain qualified specialists to help you select the right glove for the specific job.

IN
Gas

Dust

Fumes

Heat

• Increase Worker Morale

• Reduce Production Costs

with

Scott Demand Respirators!

Bureau of Mines Approval No. 1924

Men who work in atmospheres not immediately dangerous to life, but in which the ill effects are temporary, are completely protected when provided with Scott Demand Respirators. Breathing worries are gone. They work more comfortably and thus produce more.

Scott Demand Respirators provide gentle refreshing air on inhalation only. There is no wasteful, uncomfortable, constant flow to irritate eyes and nasal passages. Wearers say "As comfortable for 8 hours as for 8 minutes."

All models can be connected to plant air supply or high pressure air cylinder systems. Available with half and full-face mask. Write for complete information or call your nearest Scott Distributor.



Fixed Air supply installation, using high pressure air cylinder. Illustration shows Scottoramic Full-Face Mask.



Fixed Air supply installation using plant air supply. Illustrated with Half Mask, for use where face and eye protection are not required.



Portable Demand Respirator Equipment. For use with plant air supply or high pressure air cylinder systems.

SINCE 1932

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Export: Southern Oxygen Co., 250 West 57th Street, New York 19, N. Y.

IDEAS THAT WORKED

Devices and Ideas to Help
Your Safety Program

By Arthur S. Kelly, Industrial Department, NSC

Tire holders



WHEN we sent an "Ideas That Worked" award to David B. Renegar, Chemstrand Corporation, Decatur, Ala., for his sectional dock toe board idea published in June, we suggested he check through the plant for other ideas.

The result of Mr. Renegar's search is the wheel-holding device shown above. In addition to conventional wheel chocks, two of the holding devices are used for each truck. This idea was developed by a member of the Acrilan Plant's engineering staff, Mr. William T. Hill, shown holding one of the devices.

Mr. Renegar reports this device is efficient, inexpensive, and simple to operate. Mr. Renegar also reported these wheel holders eliminate the need for trailer hold-down cables, since the trailers are held snug to the dock and no longer tip when the lift trucks drive in with the first load.

We suggest that any reader wanting more specifications write directly to Mr. Renegar at the address included above.

No-go gauge

THE REASON for measuring the distortion of chain sling hooks is so obvious that an explanation is certainly not needed. However, the development of such a gauge speaks well for the ingenuity of the chain maintenance crew at the Baltimore Yard of the Bethlehem Steel Company.

These gauges can be made up for any size hook. They provide a quick and accurate tool for determining the condition of the hook.



FEBRUARY WINNER

The idea contributed by Charles A. Wooding of Wallingford Steel Co. was the winner in February. Mr. Wooding's contribution described a brightly painted, spring-loaded arm band to be worn by all new employees for 30 days.

Safgo contest

A CONTEST, Safgo, patterned after the well-known popular game of Bingo, was started at the American Thread Company, Clover, S. C., late last summer. The game differs from Bingo in that awards are given only to holders of good safety and attendance records.

Each employee gets a card similar to a Bingo card, except that it has the word "Safgo" at the top. A number is drawn each day and posted on bulletin boards. Employees mark their cards, as in Bingo. This continues until there is a winner.

The person who successfully fills in all the spaces across, down, or diagonally on his card wins a prize IF. "IF" in this case is that the winner must not have a disabling injury and must not have been absent more than one scheduled work day during the contest period. The prize is upgraded if the employee hasn't had any accident requiring medical attention during this period.

THE INDUSTRIAL PHYSICIAN

OCCUPATIONAL MEDICINE cannot be practiced in an office. Familiarity with the actual place and conditions of work is essential. Hence the physician specializing in industrial medicine has given more and more of his time to the study of the working environment and less and less to treatment of disabled workers.

Prevention of illness or injury by environmental control is the hallmark of an effective occupational medical service. The working environment obviously varies in nature and complexity from one industry to another and from one job to another.

To his concern for hard hats and safety glasses, however, the physician in industry has added the innumerable problems of chemistry, toxicology, physics and interpersonal relationships; new synthetic materials, X-rays, isotopes, noise, heat, light, bacteria, odors, and anxieties are examples.—LEO J. WADE, M.D., *Ind. Medicine and Surgery*.

MAKE THIS SAFETY CHECK TODAY !



Take a walk through the plant. Look for unsafe liquid-handling practices—dispensing from open drums, leaky spigots, spilled liquids on the floor, and other signs of danger. See the possibility of falls, fires, burns or worse? If a single unsafe case exists, your small investment in a Blackmer Hand Pump to safely handle the liquid can be worth its weight in gold. Call your Blackmer distributor *before* the accident has a chance to happen. Write for Bulletins 310 and 320.



"liquid materials handling"® equipment

BLACKMER / hand pumps

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Find your Blackmer Man under "Pumps" in the Yellow Pages

Library

—From page 48

9, D. C. (Chemical Safety Data Sheet SD-76).

Recommended Practice for Unloading Phenol from Tank Cars. 1959. 10pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington 9, D. C. (Manual Sheet TC-6).

Recommended Practice for Unloading Sulfuric Acid or Mixed Nitric and Sulfuric Acids from Tank Cars. 1959. 11pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington 9, D. C. (Manual Sheet TC-1).

Sulfur, Properties and Essential Information for Safe Handling and Use Of. 1959. 15pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington 9, D. C. (Chemical Safety Data Sheet SD-74).

Tolylene Diisocyanate, Properties and Essential Information for Safe Handling and Use Of. 1959. 15pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington 9, D. C. (Chemical Safety Data Sheet SD-73).

Vinyl Acetate, Properties and Essential Information for Safe Handling and Use Of. 1959. 14pp. Manufacturing Chemists' Association, 1825 Connecticut Ave., N. W., Washington 9, D. C. (Chemical Data Sheet SD-75).

Construction

Recommended Good Practice for Protection of Buildings Under Construction from the Perils of Fire and Wind. 1959. 14pp. Factory Insurance Association, Hartford, Conn.

Head Protection

Head, Eye, And Respiratory Protection, American Standard Safety Code for 1959. 46pp. American Standards Association, 10 East 40th Street, New York. (Z2.1—1959).



"Don't tell me about your tired blood!"



EYE PROTECTION IS NOT ENOUGH

B&L helps you fit the vision to the job with prescription safety lenses

To stop accidents before they happen, make sure your employees can *see well* on their jobs. For workers who need visual correction, the safest, most comfortable vision results by combining *correction* with *protection* in Bal-SAFE prescription lenses.

These lenses are products of a century of research and development. Their superiority is evident in their extra impact resistance, in their superb focus and surface qualities, and quality of ophthalmic glass used. Bausch & Lomb is the only manufacturer of professional quality ophthalmic lenses that operates its own glass plant—and controls glass quality from sand to finished product.

Local laboratory finishing is as superior as original factory product. All Bal-SAFE prescription lenses are heat treated by an exclusive patented process that gives

them as much as 14 times the impact resistance required by government standards. You pay no more for this extra safety margin.

How do you make *sure* your employees see right for their jobs? A B&L representative will be glad to explain how your workers may benefit from Bal-SAFE prescription lenses, and how the B&L Ortho-Rater quickly and easily pinpoints those who need professional eye care. Call your supplier, or write: Bausch & Lomb Optical Co., 90304 Lomb Pk., Rochester 2, N. Y.



**Protection-PLUS
Safety Products**

protection + economy + worker acceptance

New York. (Z2.1—1959).

Hoists

Standard Specifications for Electric Wire Rope Hoists. 7pp. Hoist Manufacturers Association, Inc., One Thomas Circle, Washington 5, D. C.

Standard Specifications for Hand Operated Chain Hoists. 8pp. Hoist Manufacturers Association, Inc., One Thomas Circle, Washington 5, D. C.

Marine Industry

Stowage of Bulk Cargoes Such as Ore, Ore Concentrates, and Similar Cargoes When Carried in General Cargo Vessels. 1959. 31pp. National

Cargo Bureau, Inc., 99 John St., New York 38.

Mines

Experimental Treatment of Base-Metal Ores from California and Nevada. 1960. 9pp. Publications Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Report of Investigation 5566).

Frictional Ignition of Gas During a Roof Fall. 1960. 11pp. Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Report of Investigation 5548).

Survey of Face Ventilation Prac-

tices in Coal Mines. 1960. 13pp. Distribution Section, U. S. Bureau of Mines, 4800 Forbes St., Pittsburgh 13, Pa. (Report of Investigation 5560).

Noise

Controlling Noise Hazards. U. S. Bureau of Labor Standards. 1959 6pp. Superintendent of Documents, Washington 25, D. C. (Safety in Industry—Environmental and Chemical Hazards No. 1, Bulletin 207). Price 10c.

MAGAZINE ARTICLES

Accidents

"The Accident Toll in 1959." *Statistical Bulletin.* January 1960. pp. 7-9. (Gives a listing of accidents taking 25 or more lives in continental United States, 1955-1959.)

"Work Injuries in the United States, 1958." *Monthly Labor Review.* January 1960. pp. 51-55.

Chemicals

"The Chemist's Check List for Safety Inspections." Joseph Guelich and Wm. C. Koch. *Industrial and Engineering Chemistry.* February 1960. pp. 69A-71A.

Construction

"Insurer Held Responsible." *Elevator World.* February 1960. p. 27. (Accident in which seven men were killed and 12 seriously injured when a "material lift" fell.)

Dermatitis

"Cement Dermatitis." Charles Colman. *Journal of Occupational Medicine.* January 1960. pp. 15-22.

"The Tolerance of the Skin to Lubricating and Cutting Oils." Geoffrey Hodgson. *Journal of Occupational Medicine.* January 1960. pp. 32-38.

Elevators

"The Passenger Conveyor." (Interview) *Elevator World.* November 1959. pp. 12-14.

Fire Protection

"Magnesium Creates Spectacular Freight Car Fire." C. P. Burger. *Fire Engineering.* January 1960. pp. 46-47.

"Use the Red Tag—a Danger Signal." *Factory Mutual Record.* February 1960. p. 2. (Tags to be used around sprinkler valves.)

Health

"The Economic Value of an Industrial Health Program." *American Association of Industrial Nurses Journal.* January 1960. pp. 22-24.

"Industrial Trauma—I. Principle of Early Management." James C. Drye. *Journal of Occupational Medicine.* January 1960. pp. 39-44. (Surgical Review.)

—To page 72

1960 Car-Check Campaign

Vehicle Safety-Checks for Employees, an on-the-job traffic safety program, is saving lives and money for industry.

Last year more than 3,000,000 motorists cooperated in having their vehicles inspected in 2,300 programs nationwide. One of every five of these vehicles was found in need of maintenance attention.

Rear lights were the main culprits, followed in order of unsafe condition by: front lights, brakes, exhaust systems, and tires. 1959 was the first year since 1954 that front lights have had a greater incidence of unsafe condition than brakes.

In 1960 the program will be held in May and June for owners and operators of the nation's 70,000,000 vehicles. The slogan for this year's campaign is "Join the Circle of Safety . . . Check Your Car . . . Check Your Driving . . . Check Accidents."

This project is sponsored by the Auto Industry Highway Safety Committee and *Look Magazine*, in cooperation with the Association of State and Provincial Safety Coordinators.

Objectives are: to arouse public awareness of need to have vehicles safety-checked periodically and to maintain them in safe driving condition; and to provide opportunity for free vehicle safety checks at industrial plants for employees, at community-sponsored lanes, in co-operating dealerships, garages, and service stations, on military installations, and in school- or teen-age-sponsored programs.

The 10 items checked are: brakes,

front and rear lights, steering, tires, exhaust systems, glass, windshield wipers, rear view mirrors, and horns.

Two of three vehicles registered and operating on streets and highways are not now officially checked to determine their safe driving condition. Only 15 states require periodic motor vehicle inspection by law. As many as 50 per cent or more of all vehicles inspected in these states are rejected each year because one or more parts require immediate service attention.

In reports from plants conducting programs in the past two years, 80 per cent carried out their employee programs in cooperation with a community Vehicle Safety-Check. Nearly half of the employee programs invited the public to have cars checked at plant lanes. The largest number of vehicles safety-checked in any plant program was 22,000.

Most plants used one or two check lanes. More than 80 per cent of the employee programs were conducted on company property or a street adjacent to the plant. About three-quarters of the safety checks were held before and after shifts; a fifth at lunchtime; and a fourth during time off. Some plants conducted safety checks in all of these periods.

About half of the industrial safety checks enlisted help of police or interested civic organizations. Ninety-three per cent of those reporting plan repeat programs at their plants.

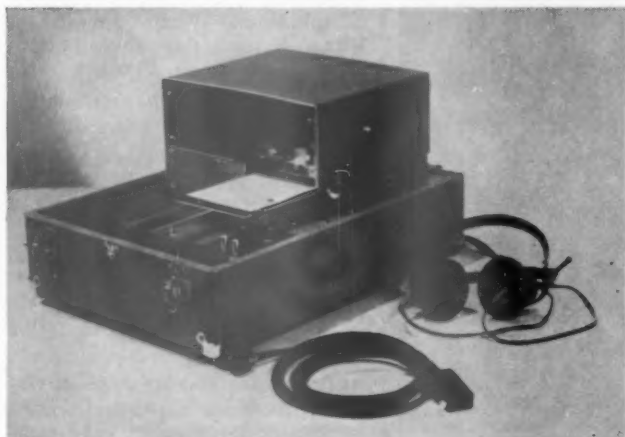
Contact: National Vehicle Safety-Check for Communities, 2000 K St. NW, Washington 6, D. C.



Sounding Board

News of Interest in the Field of Noise Control

Automatic Audiometers Simplify Effective Hearing Conservation Programs



The new Rudmose ARJ-4 Automatic Audiometer now being distributed by Industrial Acoustics Company, Inc.

Audiometers which are completely automatic and which allow the subject, after a short instruction period, to control his own hearing test are making it possible for more and more companies to institute effective Hearing Conservation Programs.

With most states recognizing hearing loss as a definite compensable item in workmans' compensation cases, the presence of a Hearing Conservation Program has become a must where the working environment can lead to loss of hearing among employees.

Audiometer Just One Factor

The automatic audiometer which simplifies the actual hearing test is just one factor in an overall Hearing Conservation Program. To be completely effective, the program must take into account all factors which tend to affect hearing loss.

In the case of a noisy environment, attention must be paid to reducing the noise level. This can be done by either isolating noisy equipment through the use of complete or partial machinery enclosures or by protecting personnel with "Quiet" Rooms which shield workers from damaging noise.

Examination Rooms Important

The first step in any Hearing Conservation Program, the pre-employment hearing test, must be completely reliable in order to determine the hearing ability of the employee at the time of hiring. To insure a reliable test, the use of an Audiometric Examination Room is recommended.

An IAC Audiometric Examination Room, when used in conjunction with the Rudmose Automatic Audiometer, assures a proper testing environment for obtaining accurate and valid audiograms. A complete hearing test takes only six minutes and the subject conducts his own pure tone test. Circle 14.

"STEEL CLAD" TELEPHONE BOOTHS KEEP NOISE OUT-CONVERSATION IN



Wall Model "NOISHIELD" Telephone Booth installed in a machine shop.

A new line of telephone booths, acoustically engineered to provide ease of conversation in noisy locations, or privacy of conversation where desired, has been introduced by Industrial Acoustics Company, Inc.

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—From page 70

Hospitals

"What to Do Till the Fireman Comes." *Mental Hospitals*. January 1960. pp. 46-47.

Maintenance

"Office Building Safety—From Top to Bottom." Nicholas Stehnick. *Modern Sanitation and Building Maintenance*. January 1960. pp. 22-33, 48-50.

Management

"Westinghouse Management Health Examinations—Their Investment Value." Harry B. Burr. *Journal of Occupational Medicine*. February 1960. pp. 80-91.

Noise

"Quieting Circular Saws." A. L. Cudworth. *Noise Control*. January-February 1960. pp. 26-30, 52.

Railroads

"Railroads Battle the Brush Menace." *Railway Age*. Feb. 1, 1960. pp. 14-15.

Training

"On-the-Job Training Prevents Off-the-Job Accidents." J. Sharp Queener. *Supervisory Management*. February 1960. pp. 9-16.

ADDRESSES OF MAGAZINES

Readers are asked to send their requests for copies of magazine articles to the publishers. The NSC Library is unable to fill such orders.

American Association of Industrial Nurses Journal, 654 Madison Ave., New York 21.

Elevator World, P. O. Box 1641, Mobile, Ala.

Factory Mutual Record, 1151 Boston-Providence Turnpike, Norwood, Mass.

Fire Engineering, 305 E. 45th St., New York 17.

Industrial and Engineering Chemistry, 1155 Sixteenth St., N. W., Washington 6, D. C.

Journal of Occupational Medicine, 28 East Jackson Blvd., Chicago 4.

Mental Hospitals, 1785 Mass. Ave., N. W., Washington 6, D. C.

Modern Sanitation and Building Maintenance, Powell Magazines, Inc., Easton, Pa.

Monthly Labor Review, U. S. Department of Labor, Washington 25, D. C.

Noise Control, 1278 Massachusetts Ave., Cambridge 38, Mass.

Railway Age, Simmons-Boardman Co., Orange, Conn.

Statistical Bulletin, Metropolitan Life Insurance Co., One Madison Ave., New York.

Supervisory Management, American Management Association, 1515 Broadway, New York 36.

Liquid Hydrogen

—From page 29

vessel the hydrogen vented off must be safely disposed of. In a properly designed Dewar (special container to reduce evaporation) the liquid hydrogen will evaporate at the rate of about one per cent per day.

Another precaution which must be taken is to avoid contamination with oxygen, because the resulting unstable mixture may spontaneously explode.

Finally, there is the inescapable fact that a small amount of liquid hydrogen means a large quantity of gaseous hydrogen. When liquid hydrogen vaporizes, it occupies a space 780 times as great as that of the original liquid.

Brookhaven is currently designing a 600 liter bubble chamber. This could produce about 16,500 cu. ft. of gaseous hydrogen (.0353x600x780), which—if uniformly diffused—could produce about 400,000 cu. ft. of explosive mixture in air (L.E.L.—4.1 per cent). This is enough to fill a building 20 ft. high by 100 ft. long by 200 ft. wide!

At Brookhaven we try to deal with these problems through a Special Hazards Committee. This committee includes engineers from the Cosmotron and Synchrotron Departments, from bubble chamber design groups, and from the safety office.

In attempting to provide a reasonable degree of safety in bubble chamber research, the committee has divided the problem into three phases:

1. Safety provisions built into the area where liquid hydrogen is to be used.
2. Safe design and construction of the bubble chambers.
3. Operational safety procedures.

Of these phases the Special Hazards Committee has first worked on built-in safety provisions. About 18 months ago, it was decided to shut down the Cosmotron for extensive overhaul, and at the same time to erect an extension to provide additional floor space for bubble chambers and other targets. The Special Hazards Committee was assigned to the task of establishing design specifications for the safety features of this new 18,500-sq. ft. building.

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ciple established involved striving to keep hydrogen confined to an area where it could do no harm. Liquid hydrogen bubble chambers are usually run in "block houses," heavy concrete radiation shields.

It was decided to take advantage of these as an area from which escaping hydrogen could be exhausted to the atmosphere outside the building. Where there is no blockhouse, a hood is erected over the apparatus. Ten exhaust fans are spaced along the two long walls, each with a capacity of 2,500 cfm.

Discharge from each fan runs through the wall to the outside more than 20 ft above grade. Fan blades and dampers are of nonferrous materials. Motors are outside the air stream.

The exhaust connection from a bubble chamber blockhouse to the nearest convenient fan is made with large diameter (about 12 in.) flexible hose, sometimes called an *elephant trunk*. These fans also can be used for protection of propane-filled bubble chambers, where exhaust pickup is taken from beneath the device.

To inform the experimenter and Cosmotron engineers on activity in the blockhouse, semi-portable, continuous type tube sampling combustible gas indicators are used. These mount on the experimenter's console some distance away from the blockhouse with tubing between.

They plug into one of a number of column stations, draw 110-v. power, and remote their signals to the Cosmotron Control through a special seven-conductor cable.

Building Protection. Since the probable magnitude of a bubble chamber incident does not lend itself to accurate prediction, it was felt that a second line of defense was necessary. Then there is a possibility of a hydrogen release outside the blockhouses, as from a Dewar in transit.

The entire building was considered as a unit and protection provided accordingly.

To encourage escaped hydrogen in its natural tendency to rise, and to get it as quickly as possible into the truss area (where there are no ignition sources), continuous vent monitors were installed along the peak of the roof. These provide continuous gravity venting designed at

about 10 per cent of the building circulating air flow.

Ventilation. Inside the building along the peak of the roof are sample heads for the building combustible alarm system. This is an intermittent tube sampling type detector, where a sample from each head is analyzed every four minutes. This detector, set to alarm at 10 per cent of the lower explosive limit and then at 40 per cent of the lel, automatically turns on the building emergency exhaust.

This consists of nine belt-driven, upblast-type power roof ventilators installed in the peak of the roof—one in each bay.

Fan blades and damper blades are of nonferrous construction, and motors are outside the air stream. These fans are sized to provide about one complete air change in the building every three minutes. This is a tremendous quantity of air, and some provision must be made to supply it.

Make-up air is admitted through pneumatically-operated louvers along the extension walls, and interlocked to open whenever the fans are in operation. Also interlocked is the building air-conditioning system, set to shut down when the fans are in operation.

In addition to activation by the combustible gas detector, this system may be manually operated from stations on the floor or at the Cosmotron Control.

Complete explosionproofing of a building of this size and its equipment was an economic and physical impossibility. On the theory that any hydrogen which escaped would be likely to rise under the roof and collect there until it reached an explosive mixture, the entire area above the lower chord of the roof truss was designated as an explosionproof area.

In some cases this meant locating



"You DID signal me to stop, didn't you?"



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equipment at a lower level. In other situations Group D equipment had to be substituted for hydrogen-approved Group B equipment not commercially available.

Emergency High-Pressure Vent.

Although we feel these systems are capable of dealing with large leaks of unignited hydrogen, they could not cope with a sudden rupture such as that occurring if a bubble chamber window broke. In practice, the bubble chamber containing hy-

drogen is in a second container with vacuum between the two. This second, or outer container, is designed as a pressure vessel and is connected to a vent system.

Escaping hydrogen is piped from the bubble chamber through a one-way valve to an 8-in. vent system installed in the building's floor trenches. There are 8-in. tees located at about 20-ft. centers along this piping.

Each teed connection terminates

in a blind flange cover. The teed connection faces up and ends slightly below the trench cover (with an 8-in. gate valve installed). Trench piping is pitched with drip pockets at the low points. Provision is made for future interconnection of the headers.

Provision is also made for contraction of the headers due to the cooling effect of the escaping hydrogen. Piping in the trenches is roller-supported at the bottom with retaining members at the top and the sides. The piping is anchored at the exit points from the building.

The section of pipe venting to the atmosphere is blocked off with an 8-in. rupture disc set at 20 psig. This rupture disc is by-passed with three relief valves set in a parallel arrangement. These valves are 4, 2, and 1 in. with settings of 3 psi, 1 psi and 4 in. of water respectively.

This by-pass allows normal hydrogen boil-off (also introduced into this system) to vent to atmosphere without disturbing the rupture disc. The rupture disc has two block valves—not standard practice but necessary in event of an incident to replace the disc as soon as possible before air is diffused back down the stack to which it is connected.

The by-passed boil-off goes out through a smaller stack. The committee does not feel we should burn this gas as it leaves the stack, but provisions have been made for future addition of burners, if desirable.

These built-in safety features at the Cosmotron cannot give complete protection but they offer a measure of safety. Not only must the devices used in the building be constructed to avoid accidents, but experimenters using these devices must do so in a safe manner.

The Special Hazards Committee currently is working toward this goal in drafting bubble chamber design criteria and operating regulations. This must be supplemented by setup and takedown procedures, as well as regular test, inspection, and maintenance routines for the various systems. Finally, emergency procedures must be established.

The most difficult part of this program is to recognize constantly that the object is to enable the scientist to work in safety—not to so embroil him in devices and procedures that he is unable to do his work at all.

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chine tools as well as compacting and other types of hydraulic and mechanical presses.

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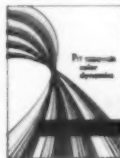
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Nerve center of the new building protection and security system is this centralized console. A single guard can supervise an entire building security system. The console is surrounded by subsystem panels that enable the guard to identify at a glance the area in the building in which there is fire, intrusion, or equipment failure.

More Eyes for Plant Guards

A COMPLETE electronic security system, designed by Minneapolis Honeywell Regulator Company, includes a centralized guard console and subsystem panels (each available separately) coordinated at a central location where they can be supervised continuously by one operator.

Heart of the integrated system is the centralized control console, called a security control center. The compact console (4 ft. high and wide by 2 ft. deep) is custom-built to provide centralized and continuous control over a building's protection system.

The console serves as the basic "building block" for the system. Located on the panel are a number of pushbutton switches, a two-way intercommunications unit, alarm indicating lights and a 14-in. closed-circuit television screen.

A guard can remain at one location while he supervises building security. Pushbutton switches are used to open and close gates to provide authorized entrance; to start

and stop non-business-hour security equipment (for example, the electronic noise detection system) and also light up to serve as visual alarms for fire, intrusion, or special equipment failure.

In all instances of alarm, the guard simultaneously receives both an audible alarm (horn, bell, buzzer, etc.) and visual warning (a pushbutton switch on his console lights) of trouble.

He then looks to an adjoining subsystem panel to identify the trouble area. For instance, one panel might contain indicating lights to show the area in which a fire situation exists; another the zone where an intruder is present; and still another to enable him to keep tab on boilers, production vats, and other equipment he is expected to supervise during non-business hours.

To further assist the guard in doing an efficient job, the subsystem panels can contain a graphic diagram of the entire building, which makes it possible for him to tell at a glance in which zone of the build-

ing an emergency situation exists.

To reduce the possibility of the console guard failing in his job through no fault of his own—either through natural causes or by being overpowered by an intruder—the system can include a special circuit connected with police or fire headquarters. If the guard does not push a button at specified intervals, a police or fire department emergency vehicle is dispatched to the scene.

Signals for the entire system are sent over a single pair of wires or leased telephone line. The lines are automatically supervised to detect tampering, breaks, or power failure. Audio and visual alarms notify the console operator instantly whenever the lines are compromised.

If the power fails or is turned off by an intruder, provision also can be made to automatically switch system operation to batteries or a standby generator.

Since no single device meets every possible security requirement, a variety of detection devices can be mounted in areas to be supervised and connected with the centralized guard console. Included are:

Fire and smoke detection. Fire detection is accomplished through use of fixed temperature-rate detector heads, while smoke is detected by smoke-sensing devices. As many fire and smoke detectors as desired are located throughout the building.

The central guard console also can be tied in with the building fire sprinkler system or alarm pull boxes to enable the operator to act instantly in any emergency. All Honeywell fire-detection devices have been approved by Factory Mutual.

Conventional intrusion detection. A wide range of conventional detection devices can be used with the system, including tamperproof magnetic switches, intrusion detection window tape, intrusion screens, pressure-sensitive mats, etc. In addition, holdup alarm switches in a payroll office or in any other sensitive area can be connected to the central panel.

Electronic noise detectors. Speakers are mounted in rooms remote from the centralized panel. The speakers detect above-normal noise in the particular area and automati-

—To page 95

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Resuscitation

—From page 33

ordered beats with little or no blood pumped). There are many variables, but if the heart is beating after the breathing is stopped, then resuscitation must be applied before fibrillation occurs. Thus, the victim must be quickly removed from the source of shock and artificial respiration must be applied immediately. In an emergency we have to assume that the heart is beating; we have no way of telling if it is fibrillating. However, if resuscitation is quickly applied, there is a chance of fibrillation not occurring.

Some heart attack victims have a distressed or depressed breathing; thus, if their lungs, blood, and tissues can be saturated with oxygen, they have a good chance of surviving the acute stages of the attack. If conscious, they may resist attempts to apply artificial respiration or to the insertion of an airway. If oxygen is supplied to a face mask, the victim will usually tolerate this. The victim may tolerate mouth-to-mouth resuscitation. When breathing ceases, resuscitation has to be given anyway.

Anoxia may develop slower in carbon monoxide asphyxia than in other acute asphyxias. Consciousness is usually lost first and breathing ceases soon after. The heart may beat a few minutes longer than in other asphyxias. Carbon monoxide is taken up by the hemoglobin (the major oxygen carrier in the blood) at a rate which is 200 times that of oxygen. The washout of the carbon monoxide is slow and the victim needs resuscitation with oxygen and carbon dioxide to stimulate breathing and replace the carbon monoxide. Oxygen should be continued even after breathing is restored.

The person in an oxygen-deficient atmosphere will lapse into unconsciousness and breathing will quickly stop unless he is removed from the area. If the victim is still breathing he may revive with resuscitation; however, artificial respiration or the use of oxygen will quicken recovery.

The victim who has inhaled an irritant gas may have difficulty getting air into the lungs due to spasm

of the glottis or constriction of the airways. These may relax as the victim passes into unconsciousness. The development of edema (fluid) in the lungs poses a serious threat to resuscitation of these subjects. An intermittent positive pressure type of artificial respiration is called for to prevent further edema development. As in the carbon monoxide and oxygen lack, the victim must be removed from the area before artificial respiration can be given.

Type of Resuscitation Needed.

Even though breathing is quickly restored, any victim of an asphyxial accident should be considered as a stretcher case and observed very closely. Any method started within seconds of the stoppage of breathing is far better than any other method started within minutes. This is because the respiratory center in the brain which initiated the breathing is still able to respond and the victim may still be making attempts to breathe. Also, the longer one waits to start artificial respiration, the weaker the heart will become.

When an asphyxial accident happens in the plant, it usually occurs far from mechanical resuscitation equipment, even if it is available. Artificial respiration has to be given by whoever is present at the time,

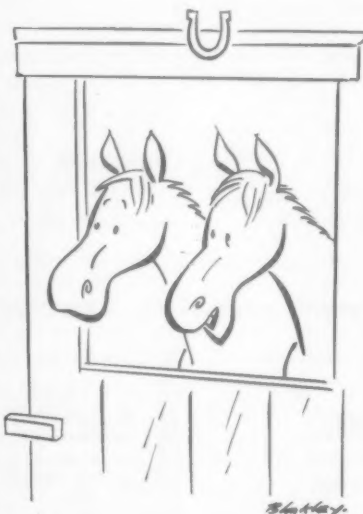
or the first person to arrive. The rescuer should begin whatever method he can. He should call for assistance but never leave the victim to go get someone who may have had training in artificial respiration. A poor method given immediately is far better than a perfectly executed method given too late. Even if one has not been trained in any method, he should try mouth-to-mouth; it is the simplest and gives good ventilation, even with poor technique.

The rescuer has at least three possible methods he may use, such as the Schafer back-pressure, the Nielson arm-lift back-pressure or the expired-air mouth-to-mouth. The Schafer method will work in some instances but it gives only slight lung ventilation, even when executed by a well-trained person. An airway is essential to produce adequate ventilation.

The Nielson method gives better ventilation but is more difficult to execute. It, too, requires a well-trained person to give a proper technique. When an airway is used this method gives good ventilation. Even with the airway, both methods give poor ventilation in comparison with the expired-air method. With the mouth-to-mouth technique the rescuer has his hands free to provide an airway by tilting the victim's head back.

When mouth-to-mouth is started within a few seconds, only a few breaths may be needed. There is adequate oxygen in the rescuer's expired air which can be supplied quickly and in large volume to combat the developing anoxia in the victim. This can be important in electric shock in order to prevent fibrillation of the heart.

The expired-air method is especially effective in the heart attack victim whose breathing may be very shallow. The air has to reach the alveoli (air spaces at the end of the airways where the oxygen in the air comes in contact with the blood). In some cases the airway may be partially obstructed and with the mouth-to-mouth method high inflation pressures are available to overcome this. Quite frequently, in industrial accidents, there is body injury and with this method there is no need to position the victim. However, the mouth or nose must be available and the rescuer should



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be able to raise the chin a little or to tilt the head back slightly.

The expired air method is simple to learn and easy to apply. Even a child can learn the method. One 10-year-old girl revived her sister although she had no training and had only read about the method in the newspaper. The size of the rescuer or the victim does not make any difference when the mouth-to-mouth method is used. It should be the method of first choice.

Objections have been raised to the mouth-to-mouth method. However, many are not valid and those that are may be overcome by certain procedures. The objections are (1) reluctance to contact the victim's lips for one reason or another (2) belief that there is low oxygen and high carbon dioxide in the expired air (3) danger of air passing into the victim's stomach (4) fear of losing too much carbon dioxide from the rescuer's lungs by fast breathing and (5) the possibility that the victim's alveoli may rupture.

The first can be overcome by covering the mouth with a handkerchief. Air can pass through even two or three folds. The inspired air contains about 21 per cent oxygen and the expired air contains about 19 per cent oxygen, which is much more than is needed. The expired air contains about 3 per cent carbon dioxide which is below any danger level. A hand placed over the stomach with gentle pressure will prevent air passing into the stomach.

The rescuer will not lose too much carbon dioxide from his lungs if he breathes about 15 times per minute. If he has breathed fast in order to get oxygen into the lungs in a hurry and he finds himself getting dizzy, he should slow down and take an occasional deep breath. This will allow the carbon dioxide to build up to the normal level in his lungs. The rescuer can feel or see the chest rise, and there is no need to over-extend it.

Mouth-to-Mouth Technique. Even when it is administered without proper technique the expired air method is more effective than the manual methods. Industrial personnel can quickly learn and effectively perform it with just the basic procedure as follows:

1. Pull chin up.
2. Take deep breath.
3. Place mouth over mouth.
4. Blow fully.
5. Remove mouth.
6. Repeat.

To improve the technique, one need only to add to and elaborate on the basic procedure as follows:

1. Place victim on his back (if not already in this position).
2. Clear mouth (if there is any visible material).
3. Pull chin up or tilt head back (hold lower jaw with one hand).
4. Take deep breath (place other hand over stomach with thumb on chest).
5. Place mouth over mouth (seal nose with cheek).
6. Blow fully until you feel the chest rise.
7. Remove mouth and let chest fall.
8. Repeat (at about 12 times per minute).

If the first blowing effort fails to make the chest rise, the airway is not clear and the rescuer should tilt the head back and repeat 3 to 6. If there is still no rise the rescuer should make sure nothing is blocking the upper airway and repeat the procedure but blow forcefully. Gentle pressure should be applied to the hand over the stomach to prevent air entering the stomach. The thumb of this hand is extended upward to the rib or breast bone in order to feel the chest rise.

The rescuer may prefer to watch the chest rise and fall, or listen for the exhalation. If the rescuer does not know how much time has elapsed from cessation of breathing, he should breathe (repeat the procedure) 20 times the first minute in order to quickly get a large amount of oxygen to the victim's lungs and heart. Then the rescuer can slow the rate to about 12 times per minute.

When one blows fully, he must breathe out a volume of air which is two to three times his usual breath. Slow deep breaths are more effective than fast shallow breaths. The rescuer should be aware of the size of the victim and not try to over-extend his lungs.

Some persons prefer to pinch the victim's nose with fingers of the

hand that is not supporting the victim's jaw. In this instance one must watch the rise and fall of the chest. The rescuer's head should be turned to the side when his mouth is removed in order to listen for and to prevent inhalation of the victim's exhalation.

Some may prefer to hold the lower jaw with both hands. In this case the rescuer should seal the victim's nose with the cheek. He should watch the rise and fall of the chest. If air enters the stomach he should occasionally apply gentle pressure over the stomach to expel the air. Care must be taken with this procedure. The throat should be checked for solids or liquids before continuing rescue breathing. There are various combinations of maneuvers that may be used. Each person should adopt those which give him the best possible effectiveness.

Mouth-to-mouth breathing may be practiced by two persons. The rescuer blows when the victim breathes in. While the victim breathes out, the rescuer takes another breath. This practice is very good for learning how to aid the victim who is breathing very shallow. When the victim breathes with him the rescuer learns what successful rescue breathing is like. When the victim breathes against the rescuer or holds his breath, the rescuer learns what obstruction feels like.

Adjunctive Equipment. Variations in the mouth-to-mouth breathing technique or the use of added apparatus include mouth-to-nose, mouth-to-mask, mouth-to-airway (oropharyngeal), mouth-to-tube (endotracheal) and mask-to-mask. All of these employ the same basic physiological principle of using the expired air as the ventilating gas. They are in essence intermittent positive pressure artificial respiration. Accessory equipment such as masks, airways, tubes, and oxygen are effective aids to mouth-to-mouth breathing. These are commercially available.

For the person who wishes to avoid direct contact, the folding plastic mask may be used. It eliminates the need for holding or sealing the nose as the mask covers both the nose and mouth.

The plastic airway also avoids direct contact and provides a good



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airway. Both are inexpensive and small. They may be placed in the pocket or first aid kit.

When a victim requires prolonged artificial respiration, the mouth-to-mask with tube can be particularly useful. This device allows the rescuer to be separated from the victim by the length of tube. Thus, he is better able to watch the victim. The added tube allows a higher oxygen concentration for the victim. It also eliminates any possible blowing off of carbon dioxide by the rescuer. This item is expensive when compared with the plastic mask or airway but is inexpensive when compared with a mechanical resuscitator.

If oxygen is bled into the mask, this unit can become a relatively inexpensive resuscitator and inhalator capable of handling most of the needs for artificial respiration of the industrial plant.

Oxygen inhalation equipment is very useful in carbon monoxide asphyxia, heart attack and other conditions where the victim's breathing may be shallow. The oxygen inhalator is not a mechanical resuscitator; it only delivers oxygen to a face mask. With the inhalator there may be movement of oxygen into the lungs but carbon dioxide comes out of the lungs only by breathing or manual maneuvers. A simple inhalator can be made with a mask that fits over the nose and mouth, a rubber tube and an oxygen tank. Where oxygen is available, this can be an inexpensive piece of resuscitation equipment.

Portable mechanical resuscitators are of two general types. They are the intermittent positive-pressure type and the positive-negative type. The latter is also known as the "suck and blow" resuscitator. These mechanical devices are fine, but they are only as good as the individual operating them. He must establish an airway, secure a good mask-to-face seal and regulate the pressure. These resuscitators are expensive but capable of handling all the resuscitation needs of the industrial plant.

Method of choice. Mechanical resuscitators are excellent, but often they are not available when needed and have to be brought to the scene

of the accident. This takes time and it is during this time that the victim is most easily revived. The author has investigated many cases where lives were lost because people stood around and waited for the mechanical device to arrive at the scene. If artificial respiration is given during this time, regardless of how poor the technique, there is a good possibility of saving a life.

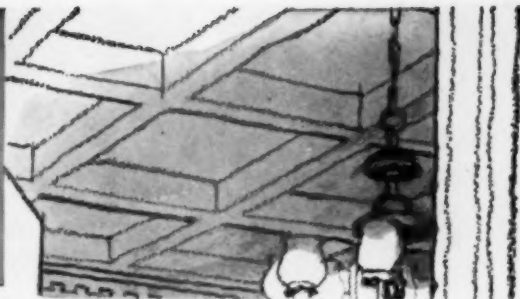
Mouth-to-mouth breathing should be the method of choice in industrial asphyxial accidents. The basic principles should be taught to all industrial personnel. Each individual can then improve his efficiency by developing added techniques. One should be aware that although seconds count, gentle intermittent full inflation of the lungs is the best substitute for normal breathing.

* * *

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Diary of a Safety Engineer

—From page 16

looking for the gross violation of obvious safety rules.

My boys are still looking over the date tags on fire extinguishers, just as I did on my first job, still looking for oily rags and unsafely stored flammable materials. The ladder, the fork-lift truck, the sprinkler system, the defective electrical circuit—these are still the same kind of problem they were 25 years ago.

But, I pointed out to Sue, "We do have lots of new problems and lots of knowledge. We know a whale of a lot more about allergies. And we have plenty of headaches with all the new alloys and new chemicals.

"I've had to get a smattering of knowledge about radioactive materials and their handling. We have a lot of new equipment—most of it based on principles we knew in '35, but much more widely applied now—things like photoelectric devices for machine guarding and plant protection, like increased automation and X-ray inspection of materials.

"There's even one closed-circuit television setup being installed at the Barton shop. There are lots of new things, and a safety man needs to keep up on his study if he wants to stay abreast of his profession."

Sue, as I've said often before, is a woman of great native intelligence and considerable industrial experience. She was plant nurse before I married her. Her erudition sometimes makes me a little humble.

She said, "All those new things sound like the frosting on the cake. The cake seems pretty much the same old thing."

I reflected on that for awhile, trying to find some proof that I and my colleagues are really a lot smarter than our predecessors. But I saw she was right as far as she went. Still, safety work isn't the same as it was 25 years ago. We aren't the same kind of men as the pioneers of safety like my boss at Monarch. I tried to explain this to Sue, and to search for the basis of the difference.

"What about the human side of safety?" she asked.

I muttered something about the unchangeability of human nature, to which she responded with her coun-

ter-cliche, "History doesn't repeat itself." Then she said, "Let's try and define the difference between you and your old boss."

I admitted that was a fair enough approach. I'm a representative industrial safety man of my age. And my old boss, though he was an individualist from the word *go*, had plenty of company in his individualism in the old days.

My old boss was a much more flamboyant character than I am, noisier, more dramatic, maybe a warmer-hearted man. Technically, I'm a whale of a lot better engineer than he ever was. But I've never made a speech that made tough factory hands weep, and I've seen the old man do just that.

I can work up a much slicker and more soundly analytical presentation in defense of a budget request than he could—but I very much doubt that I could have stormed into panelled directors' offices, as he did in the early '20's, to wrestle for the hearts and consciences of businessmen who had hardly heard of safety and had never seen its benefits demonstrated in action.

Maybe that's the great difference that has come to safety work. Maybe the generation ahead of us had to be the colorful pioneers, the loud propagandists, the rebels against tradition. Then it fell to my generation to build on the work of these men. Maybe they were the dynamite crew blasting the rock, and we were the masons laying the foundations to precise measurements in the holes they blasted.

Yet all that is over-simplification. Our predecessors were not just windbags, enthusiasts, agitators. They did, in fact, give us the basic body of technical know-how on which we still trade as safety engineers.

On the other hand, we never can afford to stop being agitators and pioneers ourselves. I know that sometime in every year since I entered safety work I have had at least one, and often many, occasions in which I've had to sell the fundamental ideas of safety to workers, supervisors, or management from scratch. Only a minority is totally ignorant and unbelieving today—but the minority we have always with us.

I tried to say all of this to Sue, and she accepted my evaluations with some reserve.

"I see all that," she said. "I'm sure you are a better technical safety expert than your old boss, and that your generation—in general—is informed, skillful, and smooth. But my impression is also that while you have picked up polish, you have lost something in fire. I don't mean zeal. Lord knows, as your wife I've had many occasions to be ragingly jealous of your devotion to your job! But you hide that devotion so carefully! It is almost as if you were ashamed to admit you had it.

"Why, why, why, once in a while

can't you be a tub-thumping orator or a jumping-jack enthusiast, letting the people around you know that really you aren't a walking slide rule and a front-office smoothie? The old-timers were unashamed idealists and dreamers. You are just as idealistic and just as much a dreamer—but why are you afraid the world will find out about it?"

To that question I have no satisfactory answer. If I did, I think I might be able to write the critical history of safety engineering in the past 25 years.



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Freedom with Safety

—From page 19

last year—perhaps partly because of an increase in the work force—the accident rate incurred by youngsters in the work force was the highest since 1953. I noted that we lost through accidents the work of more than half a million men and women workers for the whole year.

What they could have contributed, that much we lost through accidents alone. So everything we can do to reduce this loss, resulting from practices which could perhaps be corrected through improved safety programs, we realize has an effect necessary in keeping the American economy as productive as possible and keeping us on a competitive basis with those who challenge us abroad.

There is another aspect I think too often, when we examine problems such as safety on a national basis, we think in terms of half a million workers working for a year or so many million man-hours. Oftentimes we overlook the important individual involved, the human problem.

I recall when I visited Poland we went through one of their newest steel plants, still under construction. It was an impressive plant. And the young Communist commissars who managed the plant proudly escorted me through, showing me the machinery but not paying attention to the workers themselves, very little, as a matter of fact.

After we completed our tour, we were riding back to Warsaw—and in Poland there is a great deal more of freedom to speak, or at least the Poles exercise more freedom to speak, than in the Soviet Union.

A Polish Foreign Service officer, not one who apparently had been carefully indoctrinated in the Communist cause, made an interesting comment. He said: "You know, one thing about these plant managers is that they know everything about factories and nothing about people."

I can think of no single anecdote that better illustrates the difference in approach of a totalitarian society to the problems of progress and of productivity than that statement: Everything about factories, nothing about people.

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about the work of 540,000 men and women working for a year or a million or so of man-hours. We're concerned about the fact that every day last year more than 300 men and women died or were permanently disabled as a result of accidents in plants throughout the country. We are concerned about the individual problem, the human loss individually, and we do not say that progress is something that we worship without regard to what the cost is.

Our totalitarian competitors say, "We offer progress, but the cost will be freedom." Our answer is, "We offer progress, but with freedom and because of freedom."

They say, "We offer progress, whatever the cost may be in human terms." We say, "It is possible to have progress but still to have a concern for the individual."

This, of course, is directly related to the dedication of the people attending this conference, because everyone here is concerned about the individual, the human cost involved, in a modern industrial society. Otherwise, we would forget the fact that a life here, an injury there, might be one of the costs of greater productivity which a totalitarian society would be willing to pay for.

When we compare the Soviet Union and the United States, there are differences. But there is one area in which we are far, far ahead of them—a gap I am sure they will never close—that is in this very area of safety. I trust this is one we will continue to maintain at a substantial advantage.

I think sometimes we have a tendency, because of the challenge laid down before us, because of the understandable and constructive American attitude of examining our deficiencies, of advertising them, and doing so because we want to correct them, we frequently overlook some of the very good things about America.

Certainly, one of the things all of us in America can be proud of is that we have the most efficient and productive economy in the world. Yet it is one that is always concerned, above everything else, with the problems of the individual, with human dignity. May it ever be that way, and may we thank you for your dedication to this fundamental principle.



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"I get my hands plenty dirty, but Go-Jo Creme Hand Cleaner gets rid of deeply imbedded grease and grime quickly and easily. I like the dispenser too. One pull of the handle delivers just the right amount."

Henry Strous, Machinist



Pat. No.
RE 24312

Go-Jo Creme Hand Cleaner

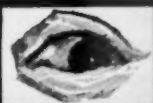
is formulated with GT-7, a powerful antiseptic, to guard hands against industrial dermatitis. It also contains soothing emollients to condition the skin.

Go-Jo Heavy-Duty Dispenser

for use with 4½ lb. can, dispenses the exact amount of soap needed to effectively clean even the dirtiest hands. Saves 75% in handcleaning costs over "hand-scoop" methods.

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OBITUARIES

ERNEST S. BEAUMONT

ERNEST S. BEAUMONT, safety director for the Peoples Gas Light & Coke Company, Chicago, since 1919, died January 10. He was 64 years old.

Mr. Beaumont was a former member of the executive committee of the National Safety Council's Public Utilities Section. He was a member of the American Society of Safety Engineers.

During World War II he taught industrial safety for war plants and civil defense. He was active in the Greater Chicago Safety Council for many years and at the time of his death was serving as administrative vice-president.

WILLS MACLACHLAN

WILLS MACLACHLAN, retired consulting engineer, died February 26 at his home in Maple, Ont., after a long illness. He was 74 years old.

Born in Toronto, Mr. MacLachlan attended the School of Practical Science, University of Toronto, receiving a degree in electrical engineering in 1907.

Until his retirement five years ago he was head of the Ontario Hydro-Electric Power Commission's employee relations department, a member of the executive staff of the Toronto Hydro-Electric System, and secretary-treasurer and engineer of the Electrical Employers Association of Ontario.

He was widely known for his research in the physiological effects of electric shock. During his retirement he published an index of literature on the subject which is international in scope. His efforts for the promotion of artificial respiration resulted in the saving of many lives.

Mr. MacLachlan had served as president of the American Society of Safety Engineers; general chairman of the Public Utilities Section, National Safety Council; chairman of the Medal Awards Committee and a member of the Accident Prevention Committee, Edison Electric Institute; and president of the Ontario Society of Safety Engineering.

John A. Dickinson In Consulting Practice

JOHN A. DICKINSON, who retired recently as chief of the Codes and Specifications Section of the National Bureau of Standards, is now an engineering consultant with offices at 5525 Charles Street, Bethesda 14, Md.

After graduation from Stevens Institute of Technology, Mr. Dickinson was engaged in industrial inspection and rating work as a representative of casualty insurance companies. During World War I he was attached to the safety office of E. I. du Pont de Nemours & Co. On January 15, 1919, he began his 40 years of service with NBS.

Since then he has participated in the formulation of many safety codes and standards developed under the procedure established by the American Standards Association. He made many contributions to the Safety Code for Elevators and Escalators, Manlifts, Logging and Sawmills, Power Presses, Protection Against Lightning, and Electric Lines.

He has served as a safety consultant to many branches of the federal government, including military bases, federal establishments, and national parks and monuments.

In 1957 he was awarded the honorary degree of mechanical engineer

from Stevens Institute and in 1959 received the Arthur Williams Memorial Award. He has been an active member of 27 sectional committees of the American Standards Association, all of which were working on some aspect of safety or building standards.

He is perhaps best known for his work on elevators, earning the title of "Mr. Elevator Safety." Also important have been his contributions to lightning protection. He has been a consultant on such projects as the U. S. Capitol, Washington Monument, battle monuments, etc. In the accompanying picture he is inspecting an installation on the Washington Monument back in the 30's.

Small Business-Associations

—From page 14

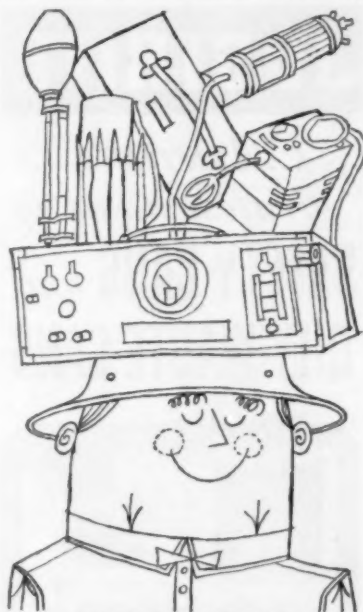
winning association. Officers, members of the board of directors, and staff will participate in such presentations on behalf of the Council. In the event that a winning association has already met during 1960 prior to the announcement of the award, other arrangements will be made.

For those unacquainted with the award program, it was developed to give recognition to the associations that make a significant contribution to the safety record of their industry during the previous calendar year. The award judges are eminently qualified to review the applications through knowledge of associations and effective safety programs. This year, judges include: Jay Judkins (chairman), chief, Trade Association Division, U. S. Department of Commerce, Washington, D. C.; John M. Convery, Industrial Relations Division, National Association of Manufacturers, New York; Robert Hagopian, assistant manager, Accident Prevention Department, Association of Casualty and Surety Companies, New York; Hal T. Lovejoy, manager, Accident Prevention Department, Jamestown Mutual Insurance Company, Jamestown, N. Y.; James P. Low, manager, Associations Service Department, U. S. Chamber of Commerce, Washington, D. C.; Glenn B. Sanberg, executive vice-president, American Society of Association Executives, Washington, D. C.



John Dickinson on the Washington Monument. Lightning protection was OK.

Circle Item No. 45—Reader Service Card



PORTABLE INSTRUMENTS?

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For Distinguished Service

—From page 12

(2): Cleveland, Ohio, Works; Davenport, Iowa, Works.

American Airmotive Corp., Miami, Fla.

American Can Co., Harbor Plant, 107-A, Wilmington, Calif.

American Smelting & Refining Co., Federated Metals Div., Perth Amboy Plant.

Automatic Electric Co., Northlake, Ill.

The British American Oil Co., Ltd., Montreal East Refinery.

The Budd Co., Red Lyon Plant, Philadelphia, Pa.

Celanese Fibers Co., Amcelle Plant, Cumberland, Md.

The Celotex Corp., Louisiana Div., Marrero, La.

Chrysler Corp. (4): Chrysler Koko Plant, Axle & Transmission Div.; Ohio Stamping Plant, Stamping Div.; Marysville Parts Plant, Service Parts & Accessories Supply Div.; Huntsville Operations, Missile Div.

Consumers Cooperative Association, Cooperative Refinery Association, Refinery, Phillipsburg, Kan.

Continental Can Co., Inc., Thames River Plant, Boxboard & Folding Carton Div.

Cummins Engine Company, Inc., Columbus, Ind.

The Dow Chemical Co., Texas Div., Freeport, Tex.

Fischer Lime & Cement, Fischer Industries, Memphis, Tenn.

General Electric Co. (4): Aircraft Nuclear Propulsion Dept., Idaho Test Station; Home Laundry Dept., Appliance Park; Laboratory Operation, Philadelphia, Pa.; Small Steam Turbine Dept., Fitchburg, Mass.

Hughes Aircraft Co., Ground Systems Group, Fullerton, Calif.

International Harvester Co., West Pullman Works.

Johnson's Company Ltd., Thetford Mines, Que., Canada.

Kansas Gas and Electric Co., Wichita, Kan.

Laclede Steel Co., Madison, Ill., Works.

The Marquardt Corp., Ogden Div., Ogden, Utah.

The Mead Corp., Chillicothe, Ohio, Div.

Minnesota Power & Light Co., Duluth, Minn., Div.

Mosinee Paper Mills Co., Mosinee, Wis.

Northern Natural Gas Co., including all subsidiaries and divisions.

Peerless Cement Co., Jefferson & Brennan Plants, Detroit, Mich.

Panama Canal Co., Supply and

Community Service Bureau, Balboa Heights, Canal Zone.

The Ruberoid Co., Joliet, Ill., Plant. Sandia Corp., Livermore, Calif., Laboratory.

Scott Paper Co., Winslow, Maine, Plant.

Sylvania Electric Products, Inc., Home Electronics Div., Manufacturing Group.

Synthane Corp., Oaks, Pa.

Tennessee Eastman Co. (3): Acetate Yard Div.; Administrative; Fiber Development Div., all of Kingsport, Tenn.

Texaco Inc., Research & Technical Dept., Exploration & Production Research Div.

Texaco Trinidad, Inc., Forest Reserve Area.

Thompson Ramo Wooldridge Inc., Danville, Pa.

Union Carbide Chemicals Co. (2): Texas City, Tex., Plant; Torrance, Calif., Plant.

Union Carbide Metals Co., Division Union Carbide Corp., Ashtabula, Ohio.

Union Carbide Nuclear Co. (2): Oak Ridge National Laboratory, Oak Ridge, Tenn.; Oak Ridge Gaseous Diffusion Plant, Oak Ridge, Tenn.

Union Electric Co., Supply Service Div., St. Louis, Mo.

Union Oil Company of California, Los Angeles Refinery.

United States Steel Corp., Fairfield Tin Mill, Tennessee Coal & Iron Div.

Western Electric Co., Inc. (2): Philadelphia and Washington Installation Areas, Telephone Sales Div.

Westinghouse Electric Corp. (2): Lamp Div., Little Rock, Ark., Plant; Sturtevant Div., Hyde Park, Mass.

Whirlpool Corp., Saint Joseph Div.

W. F. Carey Receives Honorary Degree

WALTER F. CAREY, chairman of the board of the National Safety Council and president of Automobile Carriers, Inc., received an honorary doctor of laws degree from Wayne State University, February 4.

Mr. Carey has been associated with trucking, transport and carrier services for more than 30 years. He was cited for his work with church and philanthropic groups and national transportation and safety associations. A 1926 graduate of Wayne State, Mr. Carey served as president of the University's alumni association and board chairman of the University Foundation and of the Alumni Fund.

The Audience Knows the Score



WITH THE ABOVE DISPLAY, the audience at a meeting knows who's presiding, who's speaking, and the subject of his talk.

The above display was used by Warren D. Wilt, safety engineer for the City of Detroit, at a meeting of the Public Employee Section at the 47th National Safety Congress. A strong believer in visual aids, he made announcements of program items visually at the meeting at which he presided.

The placard on the table shows the name of the section and the chairman; the one on the easel gives the speaker and his topic. Anybody entering the room could tell instantly which of the program items was in progress.

Prepare Guide on Handling Chemicals

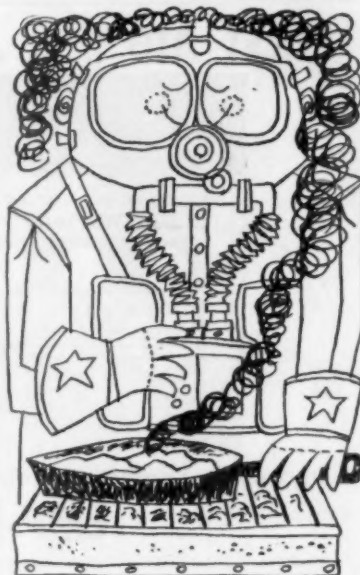
The first in a series of pamphlets to be known as Safety Guides has been announced by the Manufacturing Chemists' Association, Inc.

Health Factors in Safe Handling of Chemicals is the title of the new publication developed as a part of the activity of the Association's General Safety Committee. The four-page publication is designed to help the non-chemist in the chemical plant become familiar with toxicology terminology, to understand ways by which noxious substances enter the body and exert their harmful effects, and to know the basic principles of first-aid treatment.

The new series of guides will cover aspects of safety in chemical

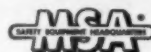
manufacturing which are not dealt with in the widely used chemical safety data sheets, also published by the Association. The second guide in the series, which will be published in the near future, will deal with "good housekeeping" in chemical manufacturing. Others are planned to cover such matters as "electrical switch lockouts," "entering tanks," and other safety matters of broad application. Safety organization, precautions against environmental hazards, fire, and safety training also are possible topics.

Copies of Safety Guide SG-1 are available at 15 cents each from the MCA, 1825 Connecticut Avenue, N. W., Washington 9, D. C.



BREATHING APPARATUS?

With MSA you choose from a complete line of items for self-contained protection. Write for descriptive literature.

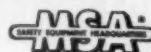


Mine Safety Appliances Company,
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GAS MASKS?

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FIRST AID



in over-heat detection problems

TEMP-PLATES

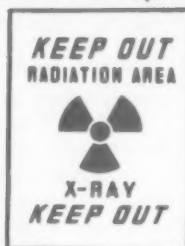
For safety and preventive maintenance where over-heat conditions constitute a hazard. When applied to suspect areas on machinery and equipment, self-adhesive Temp-Plates point out the "hot spots." On exposure to stated temperatures, the indicators change from pastel color to jet-black, affording visual proof of over-temperature. TEMP-PLATES are available from 100°F through 1100°F.

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Fire Chief's Devices Enliven Demonstrations

Fire Chief Leslie Johns of Tidewater Oil Company's Delaware Refinery makes his own visual training aids in teaching fire prevention and control to refinery personnel.

He does this in addition to administering the refinery fire department, formulating and enforcing fire regulations, and establishing a competent fire-fighting force.

With a portable demonstration kit of his own devising, he graphically shows causes of fires and methods for controlling and extinguishing them.



Chief Johns forms the familiar triangle.

The kit is contained in a black box. On one of the outer sides three white strips of wood can be placed and held by magnets to form the familiar fire triangle. The strips are marked "fuel," "air," and "heat"—the three necessary elements in any fire.

The box is wired electrically inside. When all three sides of the triangle are fitted into place, the center of the triangle glows a red "fire," and an alarm bell rings. When any one of the sides is removed, the red light goes out and the alarm shuts off.

An electric sparker is another Johns' training aid. Connected to dry cell batteries and a Model T Ford coil, the hand-held sparker produces a hot arc, illustrating the ignition of petroleum vapors.

A variation of the sparker device is an electric heating coil that can be adjusted to different temperatures. This shows the degrees of heat required to ignite combustible materials.

Johns emphasizes training, crediting it as one of the most important aspects of his over-all job. He has been in refinery fire protection work for 20 years. He also is a member of the Delaware State and New Castle County Fire Chiefs Assn.

More Eyes for Plant Guards

—From page 78

cally set off an audio and visual alarm on the console.

The two-way communications system then can be used by the guard to listen in on the particular area. Since a human being in the area could be a cleaning woman or some other authorized person, the guard may speak over the two-way system to verify identity. A code word could be used to avoid a false assurance from an intruder.

Since the speaker used in the electronic noise detection system is similar in physical appearance to conventional public address system speakers, it can be mounted in plain sight in any area or it may be hidden in the ceiling.

Electronic motion detectors. Two newly-developed motion detecting systems can be used with the system. The first is known as the Vitronic Eye and may be used to detect motion both in indoor and outdoor lighted areas. Whenever the light pattern between a transmitter and amplifier (which may be separated by up to 2,000 ft.) is disturbed, an alarm signal is energized, sounding an alarm at the guard console.

The second way in which motion can be detected electronically is through use of a system called the Sono-Sentry. An audible signal is sent into the closed area and a receiver located in the room is turned to the resulting wave pattern. Any motion in the area disturbs the signal pickup by the receiver and triggers an identifying buzzer and alarm light on the central panel.

Electronic fencing. Through use of a new capacitance-type circuit, it is possible to detect the presence of any human being who approaches within three feet of the security fence. A unique two-wire system (one wire serving as a ground and the other located about four feet above ground level on any type fence) detects the presence of a possible intruder and sounds an alarm before the person touches the fence.

Use of a built-in compensator overcomes an inherent problem previously encountered with electronic fences. The compensator prevents

false alarms resulting from contact being made with the fence by birds, blowing newspaper, growing weeds, rain, snow, sleet, and wind. Two-hundred-foot sections of the fence can be graphically diagrammed on a central station subsystem panel. Indicating lights, in turn, tell the guard at a glance the particular area in which possible intrusion is occurring.

Capacitance-type security devices can also protect safes, narcotics cabinets, top-secret military files, etc. They operate much like the electronic fence system.

Automatic door and gate control.

The television screen mounted on the guard's console and a number of pushbuttons (depending on how many gates are to be controlled) provide the guard with both visual observation and automatic control over authorized entry (by messengers, truck drivers, etc.).

Television cameras are located in each gate area in such a manner as to allow the guard to survey the entire area and also adjust the lens to provide close-up view of persons seeking admittance.

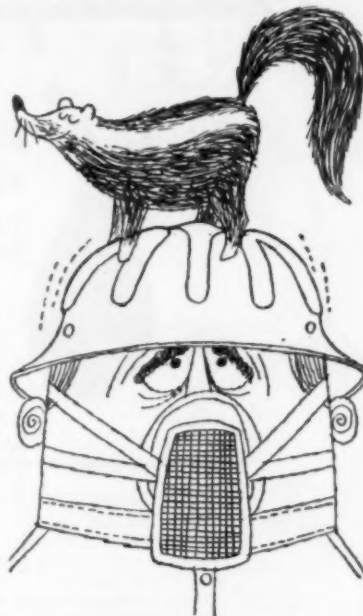
The guard also is able to talk to the person seeking admittance over a two-communications system. Once he verifies the person's identity and purpose of his visit, the guard then pushes a button to open the gate. If desired, he can continue to follow the visitor on the TV screen to make certain he goes to the authorized destination. By pushing the button again, the guard can close the gate. A meter on the console indicates gate position to prevent leaving it open inadvertently.

The security system utilizes a two-wire network to provide centralized control over as many building protection functions as desired. The number of functions that can be carried over the two-wire system is almost unlimited.

Where audio functions are included, the two-wire system can carry signals up to three miles without additional amplification. Additional distance may be obtained through use of a simple line amplifier.

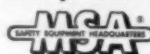
If only alarm functions (fire, intrusion, etc.) are desired, the two-wire system can carry signals up to 20 miles.

Circle Item No. 52—Reader Service Card



RESPIRATORS?

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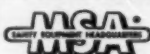


Mine Safety Appliances Company, Pittsburgh 8, Pa.



SAFETY CLOTHING?

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Safety Appliances Co., Pittsburgh 8, Pa.



Cleans, slip-proofs floors in a jiffy!

Here's low-cost accident insurance in a bag! Spread amazing SOL-SPEEDI-DRI carpet of safety on with a rake or broom...thirsty granules pull deep deposits of oil, grease or liquid out of floor.

Leave on, or remove and reuse until saturated! Mineral...won't burn! Each lb. contains over 13 acres of absorptive surface area. ...and no dust problem with SSD!

SPEEDI-DRI DIVISION

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SAFER HANDLING
of INDUSTRIAL LIQUIDS!



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**Calendar Contest
For January**



Mrs. Norris Turnbull (Individual Member), Holcomb, N. Y., won the \$100 first prize in the National Safety Council's "Safety Saying" contest with this line:

For her hall was "skid row"—beautified!

The contest appears monthly on the back pages of the Council's calendar. The theme for the January contest was "Safety Begins at Home."

Second prize of \$50 went to F. A. Landers, Baroid Div., National Lead Co., Houston, Tex. His entry was:

"An unsafe SITUation," Ann cried!

Augusta L. Church, Middle Atlantic Lumbermens Association, Philadelphia, Pa., won third prize of \$25 for this line:

"Too much gloss-up's a 'toss-up,'" Ann sighed.

The 30 winners of \$5 prizes are:

Mrs. Helen C. Graves (Individual Member), Manhattan Beach, Calif.

Miss Sandra Gesell, Wartburg College, Waverly, Iowa.

Thomas E. Fogerty, St. Louis Post-Dispatch, St. Louis, Mo.

Frank Knapp, John Knapp Sons Foundry Co., Akron, Ohio.

Mrs. Don Jorgenson, Jorgenson Oil Co., Clintonville, Wis.

Donald G. Micklewright, Standard Oil Co. (Ind.), Whiting, Ind.

Mrs. E. C. Erichson, E. I. DuPont de Nemours & Co., Gibbstown, N. J.

Mrs. Robert D. Cole, Haynes Steelite, Kokomo, Ind.

Harry W. Latchford, Potomac Electric Power Co., Washington, D. C.

Mrs. Robert Clark Wilson (Individual Member), Indian Head, Md.

Mrs. Hal Cole, Sealright Corp., Fulton, N. Y.

Robert E. Davis, U. S. Steel Corp., Gary Works, Gary, Ind.

Mrs. Thomas Dickens (Individual Member), Bluffs, Ill.

Mrs. Corinne Parks, Minneapolis Honeywell, Heiland Div., Denver, Colo.

Miss. Lois P. Robinson, American Viscose Corp., Fredericksburg, Va.

Paul L. Johnson, National League for Nursing, New York City.

P. Fanning, Local 906 U. A. W., Mahwah, N. J.

Miss Virginia Tittle, The Procter & Gamble Co., Cincinnati, Ohio.
S. M. Blindeman, American Trading Co., Zeist, Holland.

Miss Rosie Raduenz, Kaiser Steel Co., Fontana, Calif.

Robert Collins (Individual Member), Monroe, N. Y.

Ralph Kennedy, American Brake Shoe Co., Lindsay, Ont., Canada.

Mrs. Gloria I. Price, Capitol Concrete Co., Jacksonville, Fla.

Ira G. Wallace, Milwaukee Road, Milwaukee, Wis.

Mrs. T. A. Clarke, Advertising Checking Bureau, Memphis, Tenn.

Mrs. Florence Kivanoski, American Seating Co., Grand Rapids, Mich.

Miss Mabel Sayfried, Lehigh Portland Cement Co., Catasauqua, Pa.

John C. D. Oosterhout, Texaco, Inc., Port Arthur, Tex.

Mrs. Mary D. McCullough, Timber Products Co., Medford, Ore.

Mrs. Lonnie E. Lewis, Celanese Chemical Co., Kingsville, Tex.

VOICE OF THE READER

Let's have your views on current topics. You don't have to agree with us

Too Much Monoxide

WILSON DAM, ALA. In an article, "No Monoxide Hazard in Tool Storage Cave," in the February issue is the statement:

"With purifiers on the trucks, Page keeps CO content in the cave to 10 to 100 parts per million parts air (.001 to .010 per cent). This is well below the 200 parts per million specified by government safety regulations."

I trust the 200 ppm value is an editorial error and should have been 100 ppm. In the Table of Chemical Safety References in the same issue, 100 ppm is the value given for CO.

If you know of government safety regulations specifying 200 ppm, I would appreciate your telling me of this reference.

—STANLEY C. KYLE, *Staff Industrial Hygiene Engineer, Tennessee Valley Authority.*

(Mr. Kyle is correct. The lower limit is the correct one.)

A Changing World

—From page 46

—including safety training. The investment in individual skill will be higher, and the challenge to the safety movement will be to prevent its loss through injury.

Through its workshops the Conference reached conclusions outlined in the following paragraphs.

The Schools. Industry would like schools and colleges to provide graduates who:

1. Have good attitudes toward safety derived from actual training in and practice of safe living in their school and other activities.

2. Know and appreciate that safety will be required of them when they take a job in industry in the same way they are expected to be proficient in other skills.

3. Have a record of safe performance in all school work and activities, including vocational and shop work.

4. Have had teachers whose interest and knowledge of safety have caused them to integrate it into all phases of student work and activities.

5. Have learned self-discipline and ability to understand and live with authority.

In view of the growing hazards in our highly mechanized society, special emphasis should be placed on education for safe living in all instructional areas.

Safety Standards. The experience of the past 40 years in accident prevention has been assembled in many forms, safety standards being one of great importance.

Existing industrial standardizing agencies are equipped to meet the challenge of the future. As scientific information becomes available, these agencies will lend themselves to the development of standard recommendations for meeting new conditions.

Standards must be maintained in acceptable and useful form through revision, amendment, or reaffirmation. Manufacturers can supplement the safe use of the equipment they produce by educating the user in safe procedures. Developers of new materials can make known their inherent hazards.

Regulatory agencies have great responsibility in enforcement of the standards they produce. Adequate supervision is necessary in the use of these standards as basic accident

Circle Item No. 56—Reader Service Card



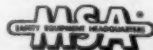
FIRST AID?

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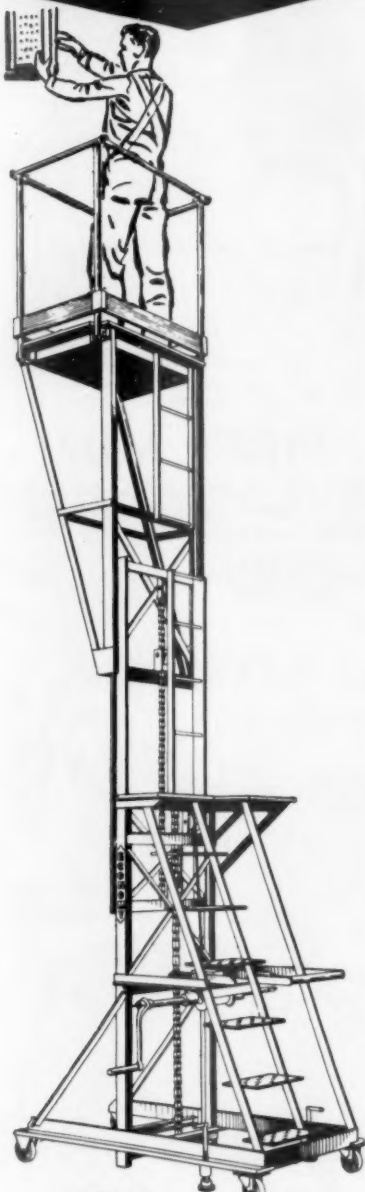


RESUSCITATION DEVICES?

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Speed overhead servicing— Stop accidents with a HI-REACH TELESCOPER



Model PUL

(illustrated)
Lift 10'9"—\$370.00
Lift 15'0"—\$400.00

Model LB

Lifts 20' to 40'
\$1510.00 up

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Write for complete catalogue

Headquarters for standard and special
built overhead servicing lifters and
material handling equipment since 1901.

ECONOMY ENGINEERING

4518 West Lake Street, Chicago 24, Illinois

prevention measures in plant operations.

Consumer agencies can educate the public to buy and use materials and equipment measuring up to nationally recognized standards. Educational institutions, particularly technical schools, can use safety standards in integrating accident prevention principles into basic studies.

Industrial, labor, governmental, and technical organizations must keep in mind that most of their technical problems can be resolved in the development of voluntary standards. They should make use of the facilities of existing organizations in the development of these standards.

Training. We need to increase our knowledge of motivation that impels and secures willing action toward a given objective.

Group training is necessary but not sufficient in itself. On-the-job contacts remain. They tend to personalize training and develop a better relationship between supervisor and subordinate. This must be a continuing function.

Since direct responsibility for safety belongs at the level of the first-line supervisor, training in human relations looms even more important than in the past.

Supervisors should be trained to spot indicators of potential accidents in their men. These include changes in manners and habits, abnormal work performance, frequent absences, and frequent visits to the medical or personnel office. Supervisors also need to know how to talk with a worker, and how to listen.

Training and communications should not be allowed to dominate the safety program. Equally important is analyzing the environment and engineering it to control hazards. The safety specialist's training, therefore, should include codified techniques for controlling environmental hazards as well as the basic sciences customarily applied in engineering situations.

Since a safety specialist could hardly acquire sufficient technical knowledge to satisfy the broad areas of modern industry, occupational safety work must develop as two types of functions, specialist and managing.

The specialist would be expected

to have depth of knowledge in narrow areas of hazard control. The manager would work to persuade others, generally line managers, to meet their safety responsibilities. The safety specialist's training should provide for his developing the qualities and knowledge needed to do managing work.

Apprentice and job training should include training in safety and health. International unions should require such training to be conducted by local unions, or jointly by locals and employer where feasible.

Local unions, city central bodies, and state bodies should participate actively in public efforts to promote safety and health on and off the job.

Injury Occurrence. Records indicate that, in general, the high-rate industries have the following characteristics: seasonal employment, casual employment, outdoor work, shifting site of employment, heavy manual labor, relatively small establishments, "older" industries, and relatively low plant investment per worker.

Low-rate industries are characterized generally by steady employment, indoor work, large establishments, relatively little heavy physical labor, "new" industries, and high plant investment per worker.

However, if we would compare low-rate and high-rate establishments in a single industry, we would probably find one distinguishing characteristic. The low-rate firms will generally have strong safety programs.

Another distinctive feature concerns the trend of the injury rate over a period. In industries with vigorous safety programs, we will find a strong downward trend.

Practical safety programs are needed particularly for:

1. Establishments with fewer than 500 employees.
2. Activities which involve strenuous physical activity.
3. Activities performed outdoors.
4. Activities which involve shifting employment—casual or seasonal.

Environmental Hazards. Three major occupational health problems introduced and intensified by an accelerating technology are noise, chemicals, and radiation.

The significance of these problems is heightened by increasing nonoccupational exposures, such as

the steadily increasing sources of noise in daily life. Controls are especially feasible in industry because:

1. Occupational exposures are relatively more continuous and frequently of a higher magnitude.

2. Such exposures generally lend themselves to traditional industrial hygiene controls.

3. Industry is particularly concerned in view of its responsibility to prevent injury to employees.

Noise. Establishment of specific noise standards is difficult because of the complexity of the total noise problem. Standards groups are concerned not only with medical and technical considerations but with many value judgments that must be made, such as cost, risk, numbers of persons involved, effects on the total industrial community, legislation, and over-all long-term community planning. Administrative, as well as technical compromises, must be accepted.

Nevertheless, interim standards for protection have been proposed, not in form of specific damage-risk criteria but in the form of hearing conservation levels. In spite of the dearth of valid scientific data, the national standards associations, through the international standards organization, are presently considering standards for specific noises.

These interim standards encourage preventive measures which, if adhered to, will conserve hearing until more research and education make it possible to set specific standards. The breadth of the noise problem demands a team approach.

Chemicals. With approximately 500 new chemicals introduced each year, the chemical world is constantly expanding. Increasing home use as well as industrial and agricultural use of chemicals adds a new dimension to the problem. Because the cost of complete toxicologic evaluations is enormous and technical manpower and laboratory facilities are limited, there is need for new approaches to the study of toxicity.

To protect the growing number of workers exposed to these chemicals, it is recommended that basic research be expanded to develop more efficient and less costly toxicologic screening methods which can be widely applied. One such need is for the development of ade-

quate testing procedures which will permit prediction with greater accuracy of the effects of long-term exposures on man. Also needed is the development of diagnostic procedures which, when applied to man, will detect changes long before permanent damage has occurred.

Since the major hazard lies not with the primary manufacturer of chemicals but with the distributors and users, who frequently are unaware of the hazards, it is recommended that toxic products be properly labeled.

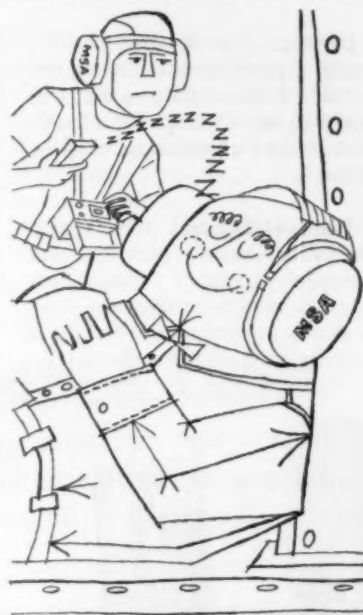
In view of the increasing home use of chemicals, it is recommended that products for home use be labeled in such a way that private physicians and poison control centers can readily identify toxic ingredients.

The increasing variety and quantity of chemical wastes have severely polluted waterways and the atmosphere. It is therefore recommended that greater effort be directed toward improving water treatment technology as well as expanding facilities to cope with non-biological contaminants of water. It is further recommended that additional research be undertaken to reduce or neutralize potentially harmful chemical effusions into the atmosphere.

Radiation. In view of the cumulative effects of radiation, and its varied sources, it is urgent that workers and the general public be adequately safeguarded through strong protective programs. In particular, there is need to train more industrial personnel in the evaluation and control of harmful exposures.

There is also need for educational programs to reduce both consumer and occupational exposure to X-rays used for diagnosis and therapy, X-ray installations in industry for product control and related uses, and various devices such as shoe-fitting fluoroscopes. Regulatory authority should be exercised by the states to limit unnecessary radiation exposures and to insure that necessary exposures are kept within allowable limits.

Because information on the minimal effects of radiation is still far from conclusive, there should be no relaxation in efforts that will lead to a high degree of certainty in estimates of safe exposure levels.



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roads, and recreation facilities.

The over-all job accident record, while good, is spotty and in need of improvement. The need for community leadership is urgent.

Economic arguments for safety, while initially strong, give way as safety programs become increasingly successful. Thus, sustained safety leadership — both job and community — requires frank admission of its human motivation.

In some firms, particularly the

smaller ones, there is often need for basic information regarding safety, as well as for practices that go beyond the requirements of existing legislation.

Some (though not all) of the workshop participants contended that in the mature labor-management setting safety leadership can be made operative through the collective bargaining processes as well as through voluntarily adopted programs.

In some areas, safety programs of schools and other community agencies are well established and performing an excellent service. Adoption of such programs in communities where such activities are now limited must be our major objective.

Where safety induction programs exist, they should be evaluated and strengthened where necessary. Firms without induction programs should install them. The recent rise in injury rates is largely attributable to labor force growth.

In such programs, as in all training, the concept of safety should be expanded to a "total concept"—one that embraces all segments of safety and recognizes their close relationships.

Community safety leadership resources are vast, and in many communities largely unexploited. A total safety concept, firmly accepted and accompanied by expanded financial support and personal effort to solve community safety needs, will cause that leadership to emerge and succeed.

Communications—a Bridge for Safety. Safety communications—getting the idea of safety in all its forms across to employees at all levels—is fundamental to any safety program.

Fostering safety programs and safety communications among small business operations is especially important. These employ great numbers of workers, but often give only passing consideration of safety.

Sustained management is a first consideration of any successful program. From this follows the corollary of prompt action in the event of accidents to make certain that the safety program is adjusted to the real situation. Such action in itself has communications significance.

There are many media for trans-

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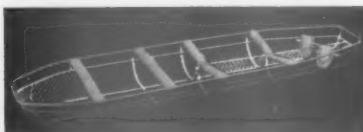


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mitting the safety idea; all of them should be used where practical. Some of the primary media are: safety meetings, slogans, employee publications, committees, posters, and man-to-man discussion.

Underlying effective use of these multiple media are psychological fundamentals which must be recognized by management.

One fundamental is the "two-way participation" of labor and management groups in establishing the norms of the safety program, though enforcement of them is a management function. This fosters understanding of the program and compliance with it, helps to relate the program to the goals of employees, and explains the *why* behind safety regulations.

Constant repetition of the safety idea, and of its individual aspects, must be a part of effective communications. Such repetition relates to all media and to full exploitation of all opportunities to convey a safety message on or off the job.

At the same time, the factor of *safety program fatigue* must be considered, lest repetition without variety either in content or medium numb the senses of the audience and defeat the purposes of the program.

Continual evaluation of both the safety program and the safety communications program is necessary to insure that the safety program is heard clearly and steadily, without causing program fatigue.

News always receives closest attention, so presenting safety as news can be a key factor in winning acceptance of the safety idea. Similarly, safety is best presented in terms of real experiences of real people. Finally, participation must be encouraged.

Although a safety communications program has little meaning in the absence of an effective program of objective safety precautions, a program of precautions loses much of its value in the absence of a comprehensive communications program.

Accident Investigation serves many purposes. Its primary purpose, however, is to develop facts about the occurrence of accidents which will aid in the development of preventive methods.

Investigation for accident prevention must be made quickly after the undesired event has occurred. Otherwise, important details may be lost. The investigation must be made by persons familiar with the work and the equipment. Certainly, the employee's supervisor should be one of the investigators.

There is great need for more detail and more informative information about occurrence of accidents. Exchange of information of this type would permit the experience of one operating unit to serve as a guide for other units.

Limiting the investigation to disabling injuries would serve only part

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of the purpose. Much additional information can be obtained from investigation of nondisabling injuries, even of "near misses" which do not result in actual injury.

Extension of investigation to include off-the-job accidents can be a source of valuable information for the protection of workers.

Health Maintenance. Modern occupational medicine is that branch of medicine which deals with the relationship of man to his occupation for the prevention of disease and injury and the promotion of optimal health, productivity, and social adjustment.

Improvement of the health aspects of the physical environment at work is the joint responsibility of the medical department, the industrial hygienist, the engineer, and the chemist.

A major part of the labor force is employed in establishments of less than 500 employees. A major problem exists in providing adequate health service to the small plant. Some of these establishments have successfully applied the lessons learned from the health-team approach. However, a considerable number of them do not have access to a complete health team—or any health service at all. It is not uncommon to find that the industrial nurse is the only health representative.

Conclusions drawn from the panel discussion are:

1. Industrial medical programs can make a vital contribution to reduction of accidents and improvement of health.
2. Rewards in occupational health maintenance from both the economic and the human standpoint should be more widely appreciated.
3. The occupational nurse is a vital part of occupational health service, but she should be provided with medical supervision and managerial support.
4. To promote the concept of safety as a science, medicine and engineering should combine forces in extending research into man's behavior and his relation to the occupational environment.
5. Since notably successful occupational health programs exist, dissemination of information concerning such programs, especially among smaller establishments, would contribute to important progress in health maintenance and safety on the job.



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Wire from Washington

—From page 10

mittee, the federal government will have 289 mine inspectors compared with 245 in the 26 coal-mining states. The committee noted that deaths in bituminous coal mines dropped from 9,931 in the decade 1940-50 to 4,161 in 1950-60, and the drop in anthracite mines was from 1,721 for the 1940-50 period to 664 for 1950-60.

The Bureau of Mines gave notice of intent to amend its regulations on multiple-shot blasting units. Among the principal revisions is the requirement of statements from applicants on the safe operation of units, which shall be acceptable before tests are begun.

The U. S. Public Health Service developed a smoke inspection guide for measuring the density of smoke emitted from chimneys and stacks; it is "considered to be a significant advance." PHS published specifications for the guide and dedicated them to public use without charge of license, and established conditions under which the PHS's name may be used in connection with guides manufactured commercially.

Radiation continued to be a matter of substantial safety concern. The Atomic Energy Commission issued reports on the Civilian Power Reactor Program which devoted attention to reactor safety, including hazardous chemical reactions. Stress was put on need for further research.

The AEC warned that "problems in reactor safety will intensify" with increasing numbers and diversity of new reactors. AEC also published a report—of a study of radiation protection afforded by a large modern concrete office building—which showed the shelter factor is highest in the basement with walls not exposed above ground and that the dose rate is 5 to 10 times higher than average at the immediate inside of a window opening.

An ad hoc committee of the National Committee on Radiation Protection re-examined the exposure of the population to man-made radiation, from the point of view of somatic (and not genetic) effects. The committee reached four conclusions:

1. There is insufficient knowledge and, therefore, a conservative position must be taken. "... even the smallest dose would involve some risk. This means the exposures should be kept as low as feasible and no level of radiation is warranted unless the benefits balance or outweigh the assumed risk."

2. "... the dosage permitted for the general population should be substantially less than that permitted for occupationally exposed or other special groups."

3. "... maximum permissible doses for the general population should be related to the average natural background level of radiation" and not to the level established for occupationally exposed groups.

4. Without recommending a specific permissible maximum level, the committee proposed a level not higher than "the estimated background level of natural radiation [100 millirem per year]."

This is lower than the recommendation of the International Committee on Radiological Protection, of 1.7 times background level.

The Department of Health, Education and Welfare also lowered its permissible level of strontium 90 intake for milk, foods, and air to the International Committee's proposal—less than half that of the old standard set by the national committee.

Traffic Safety. Congressman Kenneth Roberts' House Subcommittee on Health and Safety held hearings on progress made by the Public Health Service and the automobile industry in eliminating noxious unburned hydrocarbons from motor-vehicle exhausts. Mr. Roberts asked for reasons why the automobile industry was limiting to autos sold in California the installation of devices designed to control crankcase blowby fumes.

"Air pollution does not stop at state boundaries," he said; [it] "is a serious public health problem" and costs the country "as much as \$5 billion a year."

Mr. Roberts asked: "The question is, now that we have identified automobile exhaust gases as one of the chief culprits [of air pollution], what are we going to do about it?"

The hearings revealed a sharp disagreement between the automobile industry and the federal government. The Automobile Manufacturers As-

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sociation and the Secretary of Health, Education and Welfare agreed that crankcase blowby is a major source of unburned hydrocarbons in auto emissions, but differed as to the proper remedies.

The AMA said crankcase and exhaust hydrocarbons are of the same order of magnitude, and a device to control blowby gases could halt from 20 to 70 per cent of the total unburned hydrocarbon emissions, including exhaust and crankcase.

Such a device would be installed

as standard equipment on all 1961 models sold in California. Elsewhere "the devices can be made available for any other area where it might be determined that they are needed or wanted."

The AMA stated more research was required before emission control devices could be nationally standard equipment; "each community should be studied carefully to establish its specific requirements." AMA said "Los Angeles smog" was unique and "not likely to occur anywhere else

on earth with the frequency and intensity found in this area. . . . Attempts to apply sweeping remedies across the nation would be unfair to the public."

HEW Secretary Arthur Flemming said he couldn't understand the limitation of the blowby control device to one state. He urged the industry to adopt it as universal standard equipment without mandatory federal legislation, although he disagreed with AMA's estimate of its effectiveness and with the statement as to the uniqueness of Los Angeles smog.

He said "air pollution is going to be a continuing problem," and that auto exhausts "are of concern in various areas. . . . It does not appear feasible that this type of problem be approached on an individual community basis. The national character of automobile manufacture and distribution is such that consensus as to desirable actions should be obtained on a broader geographic basis."

HEW urged legislation to place the federal air pollution control program on a permanent basis, to provide authority for public hearings held by the Public Health Service on air pollution problems of more than local significance, and to remove the existing \$5 million annual appropriation limit. Such a bill, said Mr. Flemming, would provide a mechanism "for exercising federal leadership in this field." H.R. 10696 (Roberts) and S. 3108 (Kuchel) are the administration proposals to achieve this proposal.

The late Senator Richard Neuberger had proposed S. 2556—directing the Public Health Service to assist in the development of a device to control auto exhausts, and requiring industry to install the unit.

In the midst of this discussion, the Air Force announced approval of a device for installation on its ground vehicles to remove crankcase blowby fumes; it expects the device to be standard on most of its ground vehicles in three years.

The Public Health Service and the State of Connecticut announced a study to determine whether there is a relationship between the health of motorists and traffic accidents. The inquiry will cover hearing, vision, diabetes, anemia, heart and lung disorders, and driving attitudes. The

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Public Health Service sees the study as an effort by "health authorities to turn their attention seriously to the great social problems of traffic accidents."

The U. S. Bureau of Public Roads compiled forecasts made by state highway departments which show an expectation of 114 million registered motor vehicles by 1976, with a driving mileage of 1.2 trillion miles that year. This is an increase of 75 per cent in motor vehicle registration and 93 per cent in travel over 1956.

Commercial Transportation. The Supreme Court of the United States refused to reverse a holding by a federal court that a motor carrier was liable to a shipper, where the carrier—in violation of Interstate Commerce Commission safety regulations—had transported the shipment with knowledge it was improperly loaded. The court so ruled despite the fact that the shipper had breached its contract obligation to load the shipment properly on the carrier truck.

In connection with a study of the safety of bus passengers, made as part of a report on an accident in New Jersey involving a truck and a school bus, the ICC announced it would analyze the need for re-examination of its rules relating to escape provisions and the safeguarding of fuel supplies.

Aviation Safety. Senator Mike Monroney, chairman of the Senate's aviation subcommittee, urged improvements in pilot landing aids at the nation's congested airports as a step toward reducing air accidents. He said 35 per cent of all civil air crashes in 1959 occurred in "that critical last 60 seconds of [scheduled] flight." The subcommittee, he noted, would concentrate its air safety recommendations in this area: how best to help pilots get safely to ground through high-density traffic.

The Federal Aviation Administration's first annual report called the task of promoting and assuring aviation safety and efficiency "both enormous and difficult."

The federal aviation administrator predicted a 33 per cent increase in general aviation by 1965, and called for sufficient airport facilities for this expansion to serve local

needs. He stated that safety is the "first and all-important consideration" in selecting airport projects for federal funds.

The first in a series of regulations to attack the problem of noise at airports was announced by FAA in connection with Los Angeles airport. It was justified on two grounds: safety of all aircraft operations, and noise abatement. Similar regulations were promised for New York and Washington, D. C., in the near future.

FAA gave notice of intent to amend its regulations by adopting a new Technical Standard Order establishing minimum performance standards for aircraft tires (exclusive of tailwheel tires) to be used on civil aircraft of the United States.

In opening the 1960 Airworthiness Conference, the federal aviation administrator warned that operating speeds of some planes have been higher than assumed in their certification, and asked industry co-

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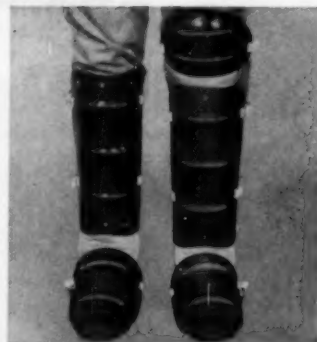
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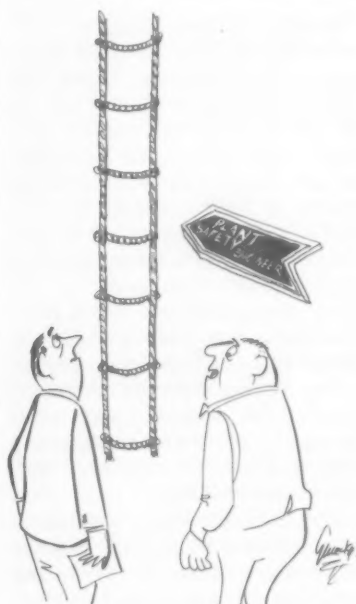
operation in dealing with "the attainment of safety."

Marine Safety. The President proclaimed the week beginning July 3, 1960, as National Safe Boating Week, and urged all "during this week and throughout the entire year to follow safe boating practices and to exercise courtesy on the waterways."

The Coast Guard announced that, effective April 1, 1960, boats of more than 10 hp. operated on the navigable waters of the United States must be numbered under the Federal Boating Act of 1958, even where such boats were previously numbered by the Coast Guard.

The Merchant Marine Council announced public hearings on proposed changes in regulations with respect to navigation and vessel inspection. The proposed changes involve: manning of radar-equipped vessels, the use of inflatable life rafts and prohibition against certain previously approved life preservers, rules of the road, special provisions for small passenger vessels and tank vessels, electrical engineering proposals, marine engineering, and the stowage of bulk ore and dangerous cargoes.

The Secretary of Labor issued *Safety and Health Regulations*, in final form, for ship repairing and



"It's not easy to get in to see him."

for longshoring, under the Longshoremen's and Harbor Workers' Compensation Act.

Public Health. The chemical additives amendment to the Food, Drug and Cosmetic Act went into full effect on March 6, over protests by food, drug and farm groups. Its major effect is to place the burden of proving safety upon the commercial user of the additive, before use, instead of requiring the government to prove it unsafe after use.

Proposed amendments on color additives, H.R. 7624 and S. 2197, came up for hearings before the House Committee on Interstate and Foreign Commerce. A major source of controversy was the administration-sponsored anti-cancer clause which forbids additives shown to produce cancer in animals. (See "Wire," March 1960).

The Food and Drug Administration held hearings on protests from the cosmetics industry against a proposed ban on 14 coal tar colors used in lipsticks. Government scientists alleged some coal tar colors used in cosmetics were "toxic and not innocuous" although no evidence was adduced of harm caused by them to human beings.

The President ordered a study by federal scientists on the use of chemicals and drugs as food additives "to find out all the facts from a scientific point of view." The study will be conducted by scientists from HEW, Department of Agriculture, and the President's Science Advisory Committee.

International Agencies. An International Occupational Safety and Health Information Centre was created by the International Labor Office in cooperation with the International Social Security Association. Headquartered with ILO in Geneva, Switzerland, the Centre plans to provide information to subscribers on work done in the field, including bibliographic references, abstracts of articles, microfilms, photostats, and translations.

The International Atomic Energy Agency in Vienna, Austria, called a conference of experts from 21 nations to discuss liability arising from the peaceful use of atomic energy.

Circle Item No. 75—Reader Service Card

Take the hazard out of Floor Maintenance



**WITH HOLT
EXPLOSION
PROOF
COMMANDER**

Model EPC16D,
showing handle
in space-saving
stowaway position.

Holt Commander is designed expressly for safe maintenance of floors in oil refineries, atomic research plants, powder factories, and other hazardous industries. There's no outside wiring. Entire unit, from brush to handgrip, is constructed, sealed and safety-tested to prevent sparks and static that might ignite gas, dust, fumes or vapors. Static eliminator wire in brush, a Holt exclusive, even prevents shocks to operator.

With this one machine and Holt Quick-Change Attachments you do a complete floor maintenance job — polish, wax, buff, scrub, etc. Dual handles give operator better control; reduce fatigue. Made in 16 and 20" sizes. For full story write now to Dept. W-4.

32

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Cities**

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MANUFACTURING CO.
BETTER FLOOR MACHINES
FOR MORE THAN 30 YEARS

669 - 20th St., Oakland 12, Calif., or 272 Badger Ave., Newark 8, N. J.



QUOTE

ON THE USE AND PERFORMANCE OF
CHARCO PRODUCTS DEPENDS OUR REPU-
TATION—AND THE SAFETY OF THOSE
WHO USE THEM. NO WONDER WE
MAKE ONLY THE FINEST

UNQUOTE

- ★ LEADER IN LABORATORY RESEARCH AND QUALITY CONTROL.
- ★ MANUFACTURER OF CHARCO SUPERIOR QUALITY "FLEX-SAF" GLOVES AND "FLEX-FIT" SLEEVES FOR LINEMEN.
- ★ ORIGINATOR OF THE CONTOUR CUFF GLOVE AND OF HI-VISIBILITY RED 'N' BLACK GLOVES AND SLEEVES

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16 STARK INDUSTRIAL PARK • CHARLESTON, SOUTH CAROLINA

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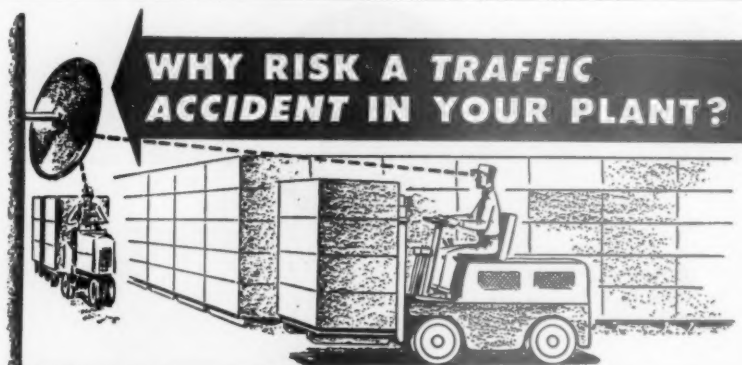


NEED A BACK-UP ALARM?

Call your Bullard distributor
he has a mechanical one —
that works better, is less
costly, easier to install, and
takes no maintenance.
Pick up your phone right now,
or write for literature.



E. D. BULLARD COMPANY
SAUSALITO, CALIFORNIA



KLEAR-VU SAFETY MIRRORS are the answer to the dangerous blind corner problem in your plant or warehouse. They are also adaptable for outdoor use in your parking lot, loading dock area or other points where traffic converges.

Mounted at cross aisle intersections, entrances and exits at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect

Style	No.	Dimensions
Circular Convex Glass	120	12" dia.
Circular Convex Glass	180	18" dia.
Circular Convex Glass	240	24" dia.
Circular Convex Glass	300M.R.	30" dia.
Circular Convex Glass	360M.R.	36" dia.
Flat Glass Rectangular	918	9"x18"
Flat Glass Rectangular	1440	14"x24"

M.R. indicates metal rim.

Special sizes made to order. Polished flat metal mirrors available.

LESTER L. BROSSARD CO.

540 N. MICHIGAN AVE., CHICAGO 11, ILL.

Write for
Bulletin.

Off the Job

—From page 50

months recorded fewer arrests. March 1958 recorded the highest arrest rate and the lowest accident rate, 18 per cent lower than the average for the 40 months.

Letter Cautions

Western Electric Workers

Fred Smith, works manager of Western Electric Company's Hawthorne Works at Hawthorne Station, Chicago, decided his firm's off-the-job program needed additional contact with workers. A letter seemed best to meet this need. Here's what the company's work force received:

Dear Hawthornite
and Those Dear to You:

As you know, the occasions have been rare when I have felt impelled to direct a message to you at your home. Considering the seriousness of this subject, I am hopeful that this method of communication will prompt you to discuss its content with anyone, but particularly the dear members of your household.

We, of course, are justifiably proud of our on-the-job safety record. During the past five years, Hawthorne has been awarded eleven Awards of Honor by the National Safety Council, a record which is unsurpassed in industry.

Recently, my attention was called to the fact that during the first six months of 1959, Hawthorne employees suffered about nineteen times as many disabling injuries while off the job as at work. This is truly an alarming rate.

In the interest of protecting ourselves and loved ones from serious injury, I believe we should all extend every effort to carry with us in our off-the-job activities the same high degree of safety consciousness that we exercise on our jobs.

It is a moral responsibility we have to our families, the community, and the nation.

FRED SMITH
WORKS MANAGER

Safety Goggles

Stop Splinter, Save Eye

If he hadn't worn safety goggles that day, Earl Yowell would be minus his left eye and possibly his life. The goggles probably saved both.

Yowell is a temper mill feeder at the Pittsburgh, Calif., Works

of Columbia-Geneva Steel Division, United States Steel Corporation. He spends a good many off-job hours in his woodworking shop at home. Here's his story:

* * *

Dear Do-It-Yourselfers:

A pair of cover-all type of goggles saved an eye for me while I was using my bench saw at home.

I was ripping pieces 3/32 x 3/16 x 30 in. from a piece of larger curly maple for the purpose of splined jointing.

I don't know what I did for sure. Maybe I slightly turned the larger piece. I do remember a sudden sort of a hummmm and a crack-like sound. At that time I felt something hit me in the face, and I could see something sticking in front of my left eye.

A small piece about 18 in. long had struck the goggles and penetrated the eyepiece about 1/2 to 3/4 of an inch. I don't want to ever find out how far it would have penetrated my eye.

Believe you me, the value and length of safety cannot be measured.

Sincerely,

EARL YOWELL

P.S. A person cannot be too careful any time. I am a confirmed believer.

* * *

His company thought enough of Yowell's close call to make it into a give-away poster and safety anecdote. Your firm might also find this technique useful.



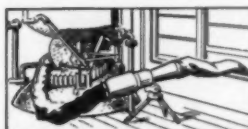
Although the piece of splinter has been cut from 18 inches in length to about three, these goggles show how they stopped the dangerous end that almost penetrated Yowell's eye.



Ventilate CONFINED Places with Vano Design "C" Ventilator-Exhauster



WELDING FUMES are here removed by this Vano Ventilator-Exhauster.



FUMES FROM A REACTOR KETTLE are here withdrawn by tripod-mounted Vano Ventilator-Exhauster. Note non-collapsible suction tubing and discharge tubing.

Ideal for withdrawing welding fumes from confined places or directly from the welding rod. Provides greater safety, greater comfort for workers . . . leads to greater work efficiency. Can be furnished with 8" suction inlet to which 8" non-collapsible suction tubing may be attached . . . or provided with multiple inlet nozzles for 5", 4" and 3" suction hose.

Other types are also available for supplying fresh air to men working in confined places, such as tanks, manholes, drums, boilers and ship-holds.

For full details on Coppus Vano Design "C" Ventilator-Exhauster write COPPUS ENGINEERING CORPORATION 124 Park Avenue, Worcester 2, Mass.



ROAD BLOCK LIGHTS



CARPENTER FLASHMASTERS

SPECIALLY DESIGNED FOR TODAY'S HIGH-SPEEDS



Illustrated at top of ad is Type NXA-7 with huge 8" lens and transistorized circuit for new high in significant light output. Above, NXA-360 for 360° coverage.

SEND FOR COMPLETE
SPECIFICATION SHEET
dealer and rental agency
inquiries invited

CARPENTER MFG. COMPANY

644 Bradley Street, Somerville 45, Mass. Telephone MOument 6-4300

ENTIRELY NEW DESIGNS

Built to give the most light for the least money . . . initially and over the years. Cuts bulb replacement, battery changes, and servicing down to new lows . . . brings warning impact and performance to new highs!

TWO COMPLETE LINES

Choose the best types for your specific needs . . . unique transistorized neon-lamp units for highest power or economy types to withstand rugged use and abuse. One-way, two-way, and 360° coverage types . . . automatic and radio controls available.

THE POSITIVE LADDER SAFETY DEVICE LOCKS-IN-A-NOTCH



**Prevents death
and injuries
from falling.**

If climber starts to fall, device locks in a deep notch on carrier rail and limits fall to approximately 6 inches — distance between notches.

LOCKS AUTOMATICALLY and INSTANTLY—HOLDS SECURELY

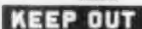
Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or frame-work. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 11 years. Approved by Safety Engineers and Govt. Agencies throughout country. Patented. Manufactured only by

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Metal Standard Signs

PREVENT COSTLY ACCIDENTS

A complete line of indoor or outdoor signs for every need. Fully Approved. Available in two gauges of steel. Write for illustrated catalog and prices.



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INCORPORATED**
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OFF THE JOB

Statistics are such bore-some things
And figures rather dull.
It's hundreds, millions, billions, trillions,
Over which we mull.

It isn't always big machines
With blades of sharpened steel,
That rob a man of arm or leg
And make his senses reel.

Nor is always "on the job"
Most accidents take place;
But just the opposite is true
And figures prove our case.

A makeshift ladder, sliding rugs,
Electric cords that spark;
A disregard for cellar stairs
And stumbling in the dark.

Crossing where no crossings are
While looking at the sky;
Driving on a slippery road
With milestones whizzing by.

These are the things that take a toll
We all should frown upon;
So watch for them when off the job,
As well as when you're on.

SAFETY HINTS ON DRILLING

Protection Plus Style

Looking ahead to grass-cutting days, Charlotte Peters, popular St. Louis TV personality, models safety shoes on her daily program in a spring shoe show presented by International Shoe Company. The shoe is one of a new lightweight line of casual styling.

Studio guests of the day, members of a suburban garden club, expressed approval of wearing well-styled safety shoes when operating power lawn mowers.



Charlotte Peters models safety shoes

Accepted Procedure...

against
**Athlete's
foot**
with modern
DOLGE Fungicides

DUSTING Alta-Co Foot
Powder on the feet and
inside shoes

FOOT BATH Alta-Co Powder
dissolved in water
for group prophylaxis

FLOOR WASH H.D. Fungicide
diluted in 300 parts water—
mop on floor

Write for
Booklet on
Athlete's Foot
Control



SAFETY ENGINEER

Nationally known construction company requires services of graduate civil engineer with minimum of ten years of field and administrative work. Must be able to establish and supervise operation of a sound safety program and have ability to sell employees on its value. C.E. degree requirement may be waived if substituted by a proven record in safety engineering for large General Contracting firms.

Send complete resume and salary requirements to:

PERSONNEL DIRECTOR
P.O. Box 1987
Providence, R.I.

KEEPING POSTED!



Watch this space each month for late news on NSC services. Use the handy Order Form to request sample copies of publications listed in this issue or to order safety merchandise.

**APRIL
1960**

NEW THIS MONTH...

- Two new volumes of *Safety Talks for Foremen*
- Four new leaflets on *accidents and elderly people*
- A new booklet on *safe play places for children*
- A new *vacation safety* booklet



BOOK 10, FIVE-MINUTE SAFETY TALKS FOR FOREMEN. The latest volume in the Council's popular series of safety talks for general industrial use. Written by Robert L. Moore, a former member of the NSC and an experienced safety engineer who is himself a specialist in holding safety meetings. The 52 talks are organized into these subjects: motivation, machines and tools, materials, movement, managing men, and miscellaneous.

152.11 Book 10, FIVE MINUTE SAFETY TALKS. Prices (per copy): 1—\$2.25; 2—\$1.95; 10—\$1.70; 100—\$1.60.

BOOK 2, PUBLIC UTILITIES SAFETY TALKS. Fifty new safety talks for supervisors in the electric, gas, telephone, and utilities industries. Covers many of the specialized problems that employees in these industries must deal with in their day-to-day work. The talks were written by these five members of the Council's Public Utilities Section Executive Committee, all experienced safety men:

Ralph S. Lowe, Northwestern Bell Telephone Co.; Donald Buckley, East Ohio Gas Company; John Gronbeck, New England Electric System; Errol Dunbar, Potomac Electric Power Co.; and Warren D. Collins, Orange and Rockland Utilities.

122.23 FIFTY SHORT TALKS FOR TAILBOARD MEETINGS. Prices (per copy): 1—\$2.25; 2—\$1.95; 10—\$1.70; 100—\$1.60.

SAFETY HINTS FOR THE ELDERLY. A series of four leaflets discussing common physical impairments of the aged and suggesting environmental aids and personal practices that will help to prevent accidents. The four leaflets in the series are:

POOR SIGHT (599.13)
TIRE EASILY (599.14)

A LITTLE SHAKY (599.12)
FORGET THINGS (599.11)

The leaflets are four pages each and are illustrated in full color. The language used requires no more than eighth grade reading skills.

PRICES: Any selection of the four leaflets (per copy): 50—\$.03; 500—\$.025; 1000—\$.023; 5000—\$.021; 10,000—\$.02. *Complete sets* of four leaflets (per set): 10—\$.12; 50—\$.11; 500—\$.092; 1000—\$.084 (Stock number for complete set—599.10). *Sample set:* Circle number 599.10 on order form.

WHERE DO YOUR KIDS PLAY? A booklet intended to stimulate parents' thinking about the play environment and play habits of their school-age children. Each page shows actual photographs of children playing in typical—but extremely risky—places. Some of the hazards pointed out are construction sites, railroad tracks, rivers, lakes, lagoons, and busy streets. The last two pages of the booklet discuss organized and supervised play areas for children. There are eight pages with two-color printing.

599.36 WHERE DO YOUR KIDS PLAY? Prices (per copy): 50—\$.06; 500—\$.055; 1000—\$.05; 5000—\$.04; 10,000—\$.037; 20,000—\$.035. *Sample Set:* Circle number 599.36 on order form.

VACATION BOUND. The Council's new booklet on accident problems of people on vacation . . . the "happiest two weeks of the year" that so often are marred by accidents. This year's booklet uses a series of cartoons to illustrate principal vacation hazards—swimming and boating accidents, highway accidents, and accidents around the house. It's a light-hearted booklet that can be read in a minute—just the right kind of a booklet to give to a man who is vacation bound and anxious to get going. Eight pages, four-color printing.

194.39 VACATION BOUND. Prices (per copy): 50—\$.07; 500—\$.065; 1000—\$.055; 5000—\$.045; 10,000—\$.042; 20,000—\$.04. *Sample copy:* Circle number 194.39 on order form.

USE TEAR-OUT FORM ON FOLD-OUT PAGE TO ORDER COPIES OF THESE PUBLICATIONS



New

POSTERS

Colorful safety posters give visual impact to your safety program. Eye-catching art-work and short, to-the-point captions, give these safety messages repeated readership. Seen and read dozens of times by each employee, they hammer home the importance of safety on the job. Poster subjects are related to actual accident experience. They point-up accident causes, means of prevention and general safety rules to be followed. These National Safety Council posters have proven highly efficient and effective in accident prevention programs.

POSTER PRICES*

SAFETY POSTERS, except Traffic

	1	2 to 9	10 to 19	20 to 99	100 to 4,999	5,000 to
Series "A"			\$1.12	\$6.07	\$6.06	\$6.05
Series "B"			.73	.195	.155	.12

TRAFFIC POSTERS, Prefix "T"

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Series "A"			.12	.07	.06	.05
Series "B"			.20	.105	.132	.11
Series "C"	\$4.40	\$4.40	.70	.24	.22	.20

*National Safety Council Members receive 10% discount on these prices. Quantity prices apply only on a single shipment to one location. Please enclose check or cash with orders less than \$2.00. Prices subject to change without notice.



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1816-B

17" x 23"



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1889-A

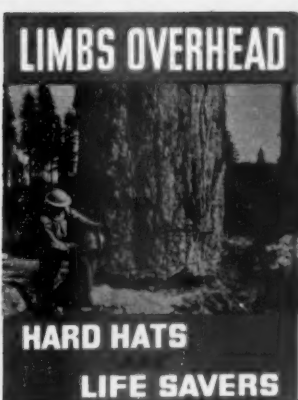
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1665-A

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1881-A

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1758-A

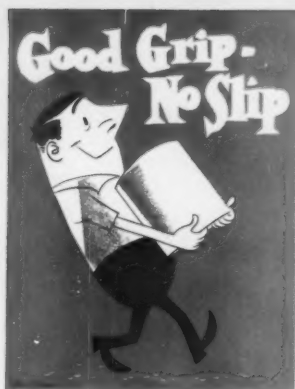
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1814-A

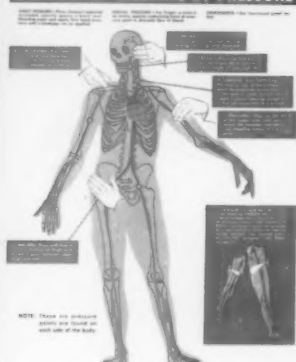
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CONTROL OF BLEEDING BY PRESSURE



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OFF-THE-JOB



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LOOK



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Their FUTURE



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V-1864-B 17" x 23"

SLOW DOWN ZONES



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V-1863-A 8½" x 11½"

STOP LOOK LIVE



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T-1884-B 17" x 23"

SAFE



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© NATIONAL SAFETY COUNCIL

T-1882-C 25" x 38"
T-1883-A 8½" x 11½"

SEND FOR FREE SAMPLE COPIES
OF EMPLOYEE TRAINING



Employee education booklets are a basic part of your safety program. The National Safety Council publishes a wide variety of such booklets designed to shape sound safety attitudes or instruct your employees in the safe practices related to their work or off-the-job activities. Several recent booklets are described below. Sample copies of these booklets may be obtained by circling the code number on the order form or they can be ordered in quantity for prices shown.

YOUR FUTURE — KEEP IT CLEAN

A booklet dealing with the problem of housekeeping in the plant. Colorful cartoons with breezy captions build a strong case for good housekeeping. Eight pages, $3\frac{1}{2}$ " x $6\frac{3}{4}$ ". Full color illustrations. STOCK NO. 195.79—Cost per booklet: 50—\$.052; 500—\$.047; 1000—\$.043; 5000—\$.04; 10,000—\$.038; 20,000—\$.036.

A PROFESSIONAL CODE FOR DEFENSIVE DRIVING

Dedicated to the millions of professional drivers who developed and refined the concept of "defensive driving" as their approach to the hazards of the highway, this booklet presents the defensive driving techniques for all drivers. Twenty pages, $5\frac{1}{4}$ " x $8\frac{1}{4}$ ". Multicolored illustrations.

STOCK NO. 294.09—Cost per booklet: 10—\$.25; 50—\$.21; 500—\$.18; 1000—\$.16; 5000—\$.15; 10,000—\$.14.

ACCIDENTS IN THE OFFICE

Brightly colored and presented in an eye-appealing way, this new booklet will help alert your "white collar" staff to the common hazards found in their occupational environment. "Accidents in the Office" fills a long-felt need. Eight pages, $3\frac{3}{4}$ " x 8". Two-color illustrations.

STOCK NO. 195.50—Cost per booklet: 50—\$.06; 500—\$.05; 1000—\$.045; 5000—\$.043; 10,000—\$.042; 20,000—\$.04.

BEFORE IT'S TOO LATE

Dedicated to "all brave firemen who try to arrive before it's too late," this booklet tells the tragic story of home fires and how to prevent them. Real-life pictures taken at the time of a fire help dramatize the message. Twelve pages, $3\frac{3}{4}$ " x 8". Two-color photographs and illustrations.

STOCK NO. 599.82—Cost per booklet: 50—\$.07; 500—\$.06; 1000—\$.052; 5000—\$.046; 10,000—\$.042; 20,000—\$.04.

FRED FLAME, THE FIERY DELINQUENT

Somewhat humorous in approach, this booklet deals with the deadly serious problem of preventing industrial fires. Written in a simple, direct style, it should drive the message home to your employees. Sixteen pages, $3\frac{3}{4}$ " x 8". Illustrated.

STOCK NO. 195.81—Cost per booklet: 50—\$.06; 500—\$.055; 1000—\$.05; 5000—\$.045; 10,000—\$.042; 20,000—\$.04.

WHO GETS HURT?

"Who Gets Hurt in Industrial Accidents?" is the question asked—and answered by this new, multicolored cartoon booklet. Using a humorous approach, this booklet tells the complete on-the-job injury story in a concise manner. Sixteen pages, $3\frac{3}{4}$ " x 8". Full-color illustrations.

STOCK NO. 192.96—Cost per booklet: 50—\$.10; 500—\$.09; 1000—\$.08; 5000—\$.07; 10,000—\$.065; 20,000—\$.055.

A SIMPLE DO-IT-YOURSELF PROJECT

The safety of a worker's fingers—industry's best production tools—is the subject of this booklet. Cartoons and brief copy help remind workers of the do's and don't's of hand safety. Eight pages $3\frac{3}{4}$ " x 8". Two-color illustrations.

STOCK NO. 194.22—Cost per booklet: 50—\$.057; 500—\$.048; 1000—\$.041; 5000—\$.033; 10,000—\$.031; 20,000—\$.029.

Use the handy Order Form to request free sample copies or to order booklets in quantity lots. For listing of additional booklets available, write—



NATIONAL SAFETY COUNCIL

425 N. MICHIGAN AVENUE, CHICAGO 11, ILLINOIS

Sammy Safety Says...

Keep your SAFETY PROGRAM UP TO DATE!



Use this convenient
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purchase or obtain free
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SAFETY MATERIALS

ORDERING INFORMATION

"KEEPING POSTED" MATERIALS

To order booklets: Write the number of copies of each booklet desired beside the stock number. Any number of copies can be ordered over the minimum (first number in price schedule indicates minimum). To receive sample copies: Circle stock number of booklets desired.

POSTERS

Order posters by stock numbers shown below. The last letter in the stock number denotes poster size: "A" 8½" x 11½"; "B" 17" x 23"; "C" 25" x 38".

A "T" in front of the stock number denotes Traffic poster; a "V" denotes Commercial Vehicle poster. Posters with no letter preceding stock number are industrial.

BOOKLETS

To order booklets: check appropriate box below and write the number of copies of each booklet desired beside the stock number. Any number of copies can be ordered over the minimum (first number in price schedule indicates minimum). To receive sample copies: check appropriate box below and then circle stock number of booklets desired.

FILM:

"EVERYWHERE

... all the time!"

Start your "Safety Everywhere ... all the time" campaign now! Indicate your preference on the film as per instructions given in the ad on the back page.

These items included under Federal Supply Service Contract GS-005-25043.

FILL OUT, TEAR OFF AND MAIL

ORDER FORM

NATIONAL SAFETY COUNCIL

425 N. Michigan Ave., Chicago 11, Illinois

"KEEPING POSTED" MATERIALS

STOCK No. QUANTITY

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122.25	_____
599.13	_____
599.14	_____
599.12	_____
599.11	_____
599.10	_____
599.36	_____
194.39	_____

Samples

(Circle stock number
for free sample)

599.10 — 599.36 — 194.39

SAFETY POSTERS

List Quantity Desired

STOCK No. QUANTITY

1743-A	_____
1814-A	_____
1678-A	_____
1816-B	_____
1889-A	_____
1855-B	_____
1665-A	_____
V 1663-A	_____
V 1865-A	_____
1881-A	_____
1758-A	_____
1832-B	_____
V 1864-B	_____
T 1884-B	_____
T 1882-C	_____
T 1883-A	_____

SAFETY BOOKLETS

☐ Ship Booklets in
Quantities Indicated

☐ Send free sample as
circled

STOCK No. QUANTITY

195.79	_____
294.09	_____
195.50	_____
599.82	_____
195.81	_____
192.96	_____
194.22	_____

Circle Stock Number ONLY
for Free Sample

FILM:

"EVERYWHERE

... all the time!"

☐ Preview (172.04)
(Single print will be
shipped)

☐ Rental (172.04)

No. of prints _____

☐ Purchase (171.04)

No. of prints _____

☐ Campaign Material
Folder

(Check above for more
information on complete
program).

NATIONAL SAFETY COUNCIL MEMBERS ENTITLED TO 10% DISCOUNT

SHIP TO

Organization _____

Address _____ City _____ Zone _____ State _____

To Attention of: _____



Presenting...

A New Concept in **SAFETY** Programing

**SAFETY
EVERYWHERE
...all the time!**



**NOW! An all-year,
all-the-time safety
campaign that will add
new interest to your
safety program**

Here's a new safety program idea from the National Safety Council. A campaign that will last all year and that will work for your on-the-job and off-the-job safety program. The campaign is built around the full color family motion picture that is described in the next column and a catchy slogan and easy-to-remember symbol. It's the same kind of campaign used in national advertising programs; now it can work in your safety program.

Get your campaign under way by arranging to rent or buy the campaign film and send for a new folder describing all the campaign materials.

**THERE'S A WIDE VARIETY OF
MATERIALS AVAILABLE:**

Take a look at the list of materials ready for use in this exciting new campaign—Posters (2 sizes), a huge Banner, Table-desk Easels, a new Plant Safety Scoreboard, colorful Leaflets, Lapel Buttons, Stationary Stickers, a new Home Safety Scoreboard, Pocket Protectors (for carrying pens and pencils), Ballpoint Pens, and Key Tags. All these items carry the easy-to-identify campaign symbol and slogan.

Check the proper box on the order form for a copy of the illustrated brochure and price list that describes all these campaign materials in detail.

**The campaign is built around a new motion
picture... "EVERYWHERE... All the time"**

Start this new campaign with this entirely different type of safety film. It does a tremendous job of getting your "Safety Everywhere" campaign under way. This delightful 23 minute, full color movie provides the setting for the campaign theme that ties together the entire program. Shot on actual location, the film tells the story of a typical industrial worker and his family... and their discovery of the importance of "SAFETY EVERYWHERE... all the time!" Start this new safety campaign in your organization. Preview, rent, or buy "Everywhere... All the Time" now.

Here's how:

Use the handy order blank on the fold-in page of this section to order your film. Indicate the item number as per the following instructions:

PREVIEW (172.04)

Check the order form under *film preview*. If you decide to purchase the film within 30 days of the date of preview there will be no charge. Otherwise the regular rental charge (\$25.00) will be made.

RENTAL (172.04)

Check the order form under *film rental*. Charge is \$25.00 per week or fraction thereof.

PURCHASE (171.04)

Check order form under *film purchase*. Indicate quantity in space provided.

Each: 1—\$185.00; 2—\$180.00; 10—\$175.00.

Note: Preview and rental charges are net. Member discount already allowed.

USE HANDY ORDER FORM ON FOLD-IN PAGE IN THIS SECTION



NATIONAL SAFETY COUNCIL

425 N. Michigan Avenue • Chicago 11, Illinois

Chemical Section Survey

—From page 23

tion and housekeeping committees are smaller than other safety committees, and range from 2 to 6 members. The number of members in other safety committees averages from 4 to 12 persons.

Most supervisors in replying plants are responsible for periodically discussing safety with their workers. Some supervisors prefer to do this singly, some with groups, and others with individuals and groups. Thirty-nine per cent of the plants hold monthly safety discussions.

Groups on a daily discussion schedule usually get together for about five minutes at a time, while plants having monthly or less-frequent conferences set aside about an hour per meeting.

Half of the organizations require supervisors to file periodic reports on when safety meetings are held, who attends, what is discussed and for how long.

A large percentage of plants indicate they provide supervisors with safety films, pamphlets, and literature from insurance companies and the National Safety Council. The booklet, *Five Minute Safety Talks*, published by the Council, often aids supervisors with discussions. One plant in Quebec, with a large proportion of French-speaking workers, has translated this booklet into French.



Three-quarters of the plants reporting maintain safety committees as part of their company's safety program. Joint supervisor-employee committees are most frequent.

Four of five reporting plants regularly provide other publications (in which safety is included) to supervision. These consist of trade journals, company publications, newsletters, insurance company, and technical literature.

Supervisor training. A few organizations provide their supervisors with assistance and counsel from management, the safety engineer, insurance company representative, and other sources.

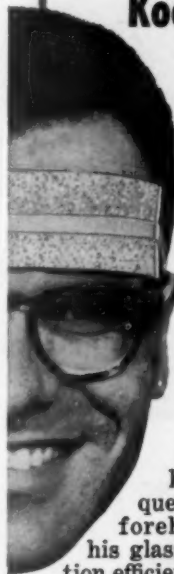
Some subjects covered in training courses for supervisors include: supervisory safety responsibility, industrial safety, accident prevention and investigation, safety statistics, fire prevention and fighting, oxygen and gas analyzers, first aid, human factors in safety, and public speaking.

And two-thirds of reporting plants include the supervisor's safety record in his performance rating.

Safety rules and regulations are issued by four of five plants, most frequently as booklets, letters and memos, and as standard practice instructions. Three-fourths of responding plants review these safety rules periodically with their employees. This takes place chiefly at the time of hiring, at the time of transfer to another department, or at safety meetings. Usually, the supervisor, foreman, or safety manager reviews safety.

Safety department representatives attend all safety committee meetings

**Here's why
cost-conscious
plants buy
Koolpads
every
summer**



When a worker has to stop frequently to mop his forehead and wipe his glasses, his production efficiency has to drop.

That's where Koolpads come in. Every lightweight, cellulose sponge Koolpad holds six times its own weight in perspiration! Production delays to mop foreheads and wipe glasses are cut to an absolute minimum. In addition, a Koolpad dampened slightly in water before wearing gives a refreshing "lift" that helps shrug off some of the effects of stifling heat . . . the immediate result is often improved production.

Each Koolpad is packed in a clean, neat envelope as an extra sanitary precaution. Also, every Koolpad has an easily adjustable elastic headband for a comfortable fit.

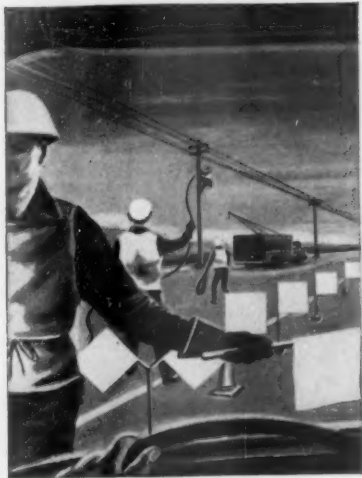
● Insist on Koolpads, the sweatband with all these features . . . and the sweatband that can be rinsed in seconds and used over and over again.

**STANDARD SAFETY
EQUIPMENT COMPANY**

431 NORTH QUENTIN ROAD
PALATINE, ILLINOIS

NEWARK 4, N.J. CLEVELAND 10, OHIO
LOS ANGELES 44, CALIF.

SURE SIGNS OF HIGHWAY SAFETY FROM IPCO



RAY-D-8* WARNING FLAGS

- High Visibility
- Wide Range of Sizes
- Diagonal Stays Optional
- Non-Metallic Stay for Indoor Power Plant Use

RAY-D-8* SAFETY VESTS

- Solid Panel Front and Back
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RAY-D-8* HARD HAT COVERS

- Fit All Type Hard Hats
- One Size Fits All Hat Sizes

YOU CAN'T BUY MORE PROTECTION FOR HIGHWAY CREWS, SIGNALMEN, CROSSING GUARDS... AND ONLY IPCO FEATURES RAY-D-8* FLUORESCENT HIGH VISIBILITY SAFETY EQUIPMENT. IPCO FLAG STANDARDS, WARNING SIGNS, SAFETY CONES AND PLASTIC BARRIER ROPES ALSO GIVE YOU MORE FOR YOUR SAFETY DOLLAR. WRITE FOR COMPLETE INFORMATION... TODAY.

*Trademark of Industrial Products Company



SAFETY PRODUCTS

Reg. U.S. Pat. Off.

INDUSTRIAL PRODUCTS COMPANY

2850 N. Fourth St. • Philadelphia 33, Pennsylvania

HOW MANAGEMENT FOLLOWS UP POOR SAFETY RECORDS

1. Letters, memos to department heads, supervisors.
2. Personal contact with department heads, supervisors.
3. Safety meetings.
4. Referral to safety department.
5. Investigating, advising.
6. More frequent inspections.
7. Study of work procedures.

in a fraction more than half of the plants. In such sessions the safety man acts most often as an advisor or secretary.

Recommendations coming from these meetings are presented in written form in about two-thirds of respondent plants. Customarily, suggestions are classified by plants as production, engineering, safety, fire, unsafe conditions, operations, maintenance, housekeeping, sanitation, and in one plant as A, B, or C, indicating the degree of urgency.

Two-thirds of the organizations periodically report on the status of each safety recommendation to the originating committee. When suggestions are impractical or unreasonably expensive, three-fourths of the plants give reasons for noncompliance to the originating committee.

About half of the operations set a time limit for action on safety recommendations. However, the completion date of the safety job may frequently be delayed, even with the priority and completion date set. This often happens during conversion to the work order form and/or with the person responsible for setting up work schedules in the maintenance department.

The survey disclosed that priorities, while usually based on urgency and degree of hazard, also depend on the nature of conditions, and availability of manpower and materials. Some plants report recommendations are taken care of by "progress made in 12 days" (as indicated by written report), "coincidence with plant shutdowns and maintenance schedules," "cost of the job," or "the amount of work to be done."

Priorities set by the section's members allow from 24 hours to three months for completion of safety jobs. And one plant takes care of

its safety recommendations in chronological order.

Another plant official says the time limit for safety jobs is determined largely by "feel," that he follows up the project until he knows money has been appropriated or the work turned down, with explanations.

Still another safety director works with a weekly safety job list, giving the number of weeks available for such projects. Using this device, time limits are set and equipment shut down without harm to the plant's operations.

Several incidental facts turned up in the survey. For instance, fewer than a third of replying plants allow their safety committees to initiate work orders, and most of these groups are restricted by price limits. In fact, in one plant price restrictions vary according to the highest level of supervision in the committee.

Of Chemical Section plants that permit their safety committees to initiate work orders, the top limit on funds made available runs between \$25 and \$1,000. The average is \$414.

Also, 60 per cent of answering plants don't make light work available for workers convalescing from disabling injuries or occupational diseases. But a good third of the operations move their employees around, when circumstances permit, so recuperating workers can perform light duties.

Labor and management cooperate in safety programming and in emphasis on the need to wear protective equipment. More than half of respondent plants have union contracts incorporating safety rules. And almost two-thirds of the plants provide copies of these contracts to their supervisors.

Operation Clean Sweep

—From page 31

ing methods something less than effective.

UAL has cut the problem to a minimum by using a tank truck similar to those used to clean New York City's streets, and filled with a concentrated high-power detergent. The detergent is sprayed in front of specially designed circular brushes, which rotate at high speed to emulsify and scrub the oil and grease away.

A thorough hosing of the area leaves the surface practically free of slick and makes the job of the plane's cleaning crew that much easier. And to enlist the fullest cooperation of nature's own sanitation department, UAL tries to schedule such field operations immediately prior to the Weather Bureau's predictions of rain.

The concern of United's top management with the sanitation maintenance program is a real one. Far from leaving it to a mop-and-pail brigade, the line has given it professional standing by putting in charge of the program a staff of professionally trained executive personnel, organized into a well defined chain of command.

Under the "landlord concept," each using administration headed by a senior vice-president is responsible for its own property on operation and maintenance. This chain of command leads through area managers down to the terminal building (or facility) manager of each property.

The using administrations are assisted in maintenance policies and standards set forth by a facilities maintenance superintendent, with functional executive status, of the Facilities Property Department at the home office in Chicago.

Under each building manager are one or more staff men, whose responsibility it is to direct the work of custodial personnel; constantly test new cleaning products and those already in use, to assure that only those most effective and of highest quality are being used; and investigate and solve cleaning problems.

Public Relations. The fact that management has put such an expensive and complex facility as the Idlewild terminal in the hands of

a professional sanitarian underscores its recognition that its stake in the sanitation maintenance program is a double-pronged one.

First is the protection of an enormous investment in physical plant and equipment. To make such an investment without protecting it at all times by stopping abuse and malfunction before they occur would be bad business. Preventive maintenance is good sense and good business.

In few places will more people

of different backgrounds mingle more closely with each other and with the companies whose services they're buying than at Idlewild. Good public relations here means good relations with a huge and increasingly choosy traveling public.

In an era of mass transportation on an unprecedented scale, with more and more airlines serving the same destinations, it's essential that airlines keep this public happy through such large-scale programs as sanitation maintenance.

Circle Item No. 85—Reader Service Card

HIS FAULT? YOUR FAULT?



STOP SLIPS, FALLS WITH FERROX

Millions of tiny, sharp, abrasive particles in Ferrox provide safe non-slip footing on all surfaces, wet or dry. Resists oil, chemicals, water and weather conditions. Adheres firmly to wood, concrete and metal. One gallon covers approximately 35 square feet. • Write for Ferrox Bulletin.

AB-187

AMERICAN ABRASIVE METALS COMPANY

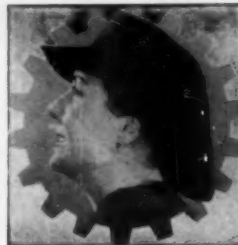
464 Coit Street, Irvington 11, New Jersey

"VEKI" SAFETY CAP

Designed for
GREATEST INDUSTRIAL SAFETY

VEKI's larger, roomier, elastic-type snood is designed specifically for enclosing more hair than any conventional type cap . . . full protection for all hair all the time! Front of twill. Back is made of mesh—can also be had in solid or flame-proof materials. Navy blue, and brown. Adjusts to all head sizes. Descriptive literature on request.

Manufacturers and distributors of a complete line of safety clothing and equipment. Write for information regarding your needs.



KENNEDY-INGALLS, INC.

3735 NORTH 35TH ST., MILWAUKEE 16, WISCONSIN

Julien Harvey Dies, Author of "Three E's"

JULIEN H. HARVEY, 75, nationally known pioneer in traffic and industrial safety and reputed author of safety's "Three E's," died of a heart attack March 1 in New Canaan, Conn. At the time of his death he was living at the home of his daughter, Mrs. Lester D. Berger, Jr.

Funeral services were held March 4 at St. Mark's Episcopal Church in New Canaan. Interment was in the Branford Center Cemetery.

Mr. Harvey was born in Marshall, Mo., August 23, 1884. After graduating from the Kansas City School of Law, he was admitted to the bar and soon after was employed by the Traction Company of Kansas City to organize their safety program. In 1916 he helped organize the Kansas City Safety Council and became its first president.

Mr. Harvey's success soon became widely known, and he was

called upon to help organize the Kansas State Safety Council. While outlining to public officials and educators of Kansas the fundamentals of accident prevention, he pointed out that greatest results would be attained through the use of three tools—education, engineering and enforcement. It is believed this was the origin of the now fundamental "Three E's" of safety.

In 1918, Mr. Harvey was asked to organize the nation's first complete community safety program in Rochester, N. Y. For nine years he was in charge of the National Safety Council's field service for local safety councils and later became the first executive vice-president of the Greater New York Safety Council.

In 1938, he became head of the accident prevention department of the Association of Casualty and Surety Companies. Under his guid-



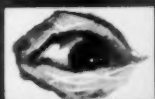
Julien H. Harvey

ance, staff specialists traveled throughout the country, promoting safety education in schools, making traffic surveys, and assisting public officials and educators in safety programs. He was one of 10 outstanding safety leaders called to Washington in 1946 to organize the President's Highway Safety Conference.

After his retirement from the Association of Casualty and Surety Companies in 1951, Mr. Harvey served as managing director of the New Haven, Conn., Safety Council from 1953 to 1955. He then became a supporting member of the Council.

Mr. Harvey was a member of the board of directors of the National Safety Council, Greater New York Safety Council, and the Center for Safety Education at New York University, of which he was a co-founder. He was a life member of the American Society of Safety Engineers, a trustee of the American Museum of Safety, an honorary member of the Institute of Traffic Engineers, and was active in many other organizations.

Circle Item No. 87—Reader Service Card



SEE a demonstration by a specialist

reduces absenteeism

**KEEPS
INDUSTRIAL
HANDS ON
THE JOB**

NEW!
non-depleting
LAN-O-KLEEN® PLUS
Hand Cleaner



for FREE demonstration or literature address:

WEST CHEMICAL PRODUCTS INC., 42-27 West St., Long Island City 1, N. Y.
Branches in principal cities • IN CANADA: 5621-23 Casgrain Ave., Montreal



SAFETY ENGINEER

Excellent opportunity for training and growth. Large midwestern insurance agency. Two or three years' experience necessary. Minimum traveling. Opportunity to learn agency operation. Construction experience desirable. Salary open.

Address Box 464
NATIONAL SAFETY NEWS

New SAFETY EQUIPMENT

Product announcements in this section are reviewed for compliance with the advertising policy of the NATIONAL SAFETY NEWS. Inclusion should not, however, be construed as endorsement or approval by the National Safety Council.



B&L Safety Headgear

Bausch & Lomb is introducing safety hats and caps. The headgear is available in glass fiber, aluminum and plastic (electrical) in standard colors.

One feature is contour-fit suspension. Lock straps assure minimum crown clearance of 1 1/4-in., which can be increased.

A numbered snap-in adjustment provides fitting to head sizes from 6 5/8 to 8. Suspension may be left intact for cleaning and sterilization, but can be removed for replacement. Plastic-zippered sweat band can be taken out and replaced without affecting suspension.

These glass fiber hats and caps are lightweight, resilient, fire and corrosion resistant with strength.

The aluminum safety hat and cap are lightweight and have the feature of heat reflection. Aluminum headgear includes a ribbing arrangement designed for strength. Hat and cap are anodized in a natural aluminum color.

The plastic (electrical) hats and caps are molded from resilient linear polyethylene for insulating safety. The shell features strength.

Accessories include a full winter liner for cold weather protection or half liner for year 'round wear. Both are made of sanforized, washable twill and flannel.

Bausch & Lomb Optical Co., Safety Prod., Dept. 635 St. Paul St., Rochester 2, N. Y. (Item 301)

Sound, Vibration Deadening Unit

Coustifab^(R), a high-density, low-bulk, sound and vibration attenuating material, is a flexible vinyl plastic sheet impregnated with metallic lead powder and backed with woven glass fiber cloth, cotton duck or other fabrics. It may also be obtained with a pressure-sensitive adhesive backing, for application to metal and other surfaces.

It reportedly minimizes undesirable low-frequency sound energies, and lowers mechanical vibration mo-

tions. Coustifab is manufactured in several different weights and can be obtained in rolls from 1-in. up to 36 to 38-in. wide.

Applications include noisy machine housings, noise suppressor covers for pumps and compressors, with foams laminated to this product for ceiling or cabin wall coverings for aircraft and helicopters, noise in business machines, wind tunnels, computers.

Cordo Chemical Corp., 34 Smith St., Norwalk, Conn. (Item 302)



Steering Aid Cuts Accidents

Accidents with industrial trucks, tractors, fork-lift trucks and other materials handling vehicles can be reduced with the Kosch Steering-Aid, a

steering wheel with an automatic clutch built into the hub that cuts down kickback and shock.

This device contains no expensive hydraulic or electrical system, fits standard shafts, can be installed quickly with no shop time required.

The unit absorbs driving shock, provides steering control, handles load force and holds vehicle wheels in set positions. It increases driver efficiency, reduces time lost from fatigue, improves employee protection against hand and wrist injury, and lowers insurance experience rate.

Kosch Mfg. Co., Columbus, Nebr. (Item 303)

M/M Resuscitator

The Globe M/M Mouth-to-Mask resuscitator has been approved for purchase under the Federal Contributions Program office of Civil & Defense Mobilization (OCDM) Standard item specification #CD VIII-177.

Globe Industries, Inc., 125 Sunrise Place, Dayton, Ohio (Item 304)



Safety Hat for Electrical Workers

Molded in one piece of moisture-proof, resilient plastic, this safety hat is without joints or holes. Critical points have been

reinforced for impact and penetration protection.

The hat will withstand 40 ft. lbs of pressure without decrease in dielectric strength. Voltage protection is effective in temperature extremes. Volt Shield is resistant to water, oil, grease, and most chemicals.

Available in yellow or white, the hat is suspended with six plastic wedges attached to the Geodetic shock-resistant suspension. The hat is non-conductive because there are no metal parts. A cap style is available.

The adjustable leatherette headband is also fashioned in genuine leather. The hat is available with chin strap and winter liners. Styles include No. 23 hat and No.

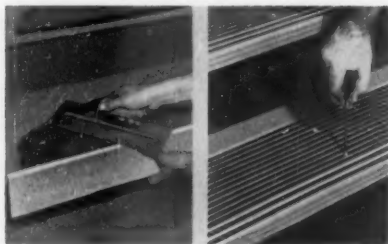
Willson Prod. Div., Ray-O-Vac Co., 212 E. Washington Ave., Madison 10, Wis. (Item 305)

User's Weight Makes Ladder Safe

All-welded steel tubing provides the strength of this ladder, in which weight of the user disengages spring-mounted ball-bearing casters and puts the ladder weight on rubber-tipped legs. When the user steps off, the ladder raises, ready for rolling. A floor lock device is on 8 through 12 ft. step ladders.

Made in 20 and 30-in. widths in sizes from 1 to 5 steps without handrails and from 2 to 12 steps with handrails, these ladders are finished with synthetic aluminum enamel.

Patent Scaffolding Co, 38-21 - 12th St., Long Island City 1, N. Y. (Item 306)



Aluminum Tread Restores Stairs

Plastic mix leveling compound is troweled over

worn areas of steps to return the step to a level surface. The step can then be capped with aluminum Stairmaster safety tread.

The treads are 9 in. wide with beveled back and fit steps up to 13 in. wide. The base of the tread is aluminum with ribs of hard abrasive. Lengths to 12 ft. are available. Fasteners are furnished for installation.

This method of restoration eliminates closing off stairs during repairs.

Wooster Products, Inc., 1000 Spruce St., Wooster, Ohio (Item 307)

Fluorescent Spray Enamel

A fluorescent spray enamel in red or orange for reduction of accidents or drawing attention to displays and signs comes in 16-oz. spray cans. It can be used on airplanes, boats, safety markers, trucks, road signs, house addresses, billboards, or ornamentation.

The fluorescent pigment is converted ultraviolet light, reflecting more light than the amount hitting it. The pigments also convert invisible light into luminous light.

Martin-Senour Co., 2500 S. Senour Ave., Chicago, Ill. (Item 308)



Chrome Plate Portable Extinguisher

This 2½-lb. pressurized dry-chemical

extinguisher is now available in chrome plate.

Aim the portable's nozzle at the base of the fire and push the actuating lever. Its protected pressure gauge tells the unit's readiness for action. Each extinguisher packs the punch of eight 1-qt. carbon tetrachloride extinguishers.

The unit may be recharged from an air line or a pressurized gas cartridge recharge kit.

Walter Kidde & Co., Inc., 675 Main St., Belleville, N. J. (Item 309)



Power Tool Safety Kit

A safety kit consisting of two guards—one for straight grinding, buffing, and wire wheels up to 6-in. diameter, and one

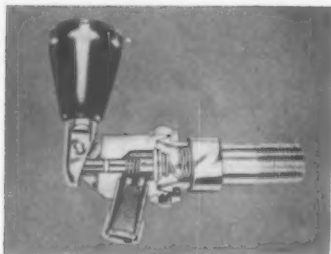
for cup wheels up to 4-in. diameter—is available.

The guards can be used in grinding and buffing operations accomplished on the radial-arm machine by removing the saw blade from the arbor shaft and attaching the desired wheel. The guards fit over the wheel and are clamped to the motor end bell by the motor stud and wing nut.

Adjustment is made by loosening three screws on the guard bracket. A kit consists of one guard bracket, two guard shrouds, one tool rest assembly, and hardware.

The guards supplement the standard guard, and offer the home craftsman and professional user increased safety in radial-arm power tool accessories.

DeWalt Div., American Machine & Foundry Co., Lancaster, Pa. (Item 310)



Dispensing, Drain Sampling Valve

A Factory Mutual-approved $\frac{3}{4}$ -in. dispensing, drain and sampling valve is available in ti-

tanium for use in atomic energy, electronic, and chemical industries.

Titanium offers resistance to many types of corrosive media, including nitric acid in all concentrations (including white fuming nitric acid), solutions of chlorine, chlorinated organic compounds and inorganic chloride solutions, nitric-sulphuric acid mixtures, chlorinated hydrocarbons.

The valve uses a fume-tight design with spring-loaded chemically-impervious Teflon seals that overcome seizure problems and assure instant, positive shut-off or instant, full flow. The valve eliminates dangerous after-drip or leakage.

Eco Engineering Co., 12 New York Ave., Newark, N. J. (Item 311)



Water Emulsion Floor Finish

A water-emulsion floor finish that contains polyethylene for durability and safety on floors is Raltec, designed for office buildings, schools and college buildings, hotels, restaurants, hospitals and institutions.

This finish is said to be resistant to water, scuffing and dirt. Its makers recommend it for touch-up of worn spots or areas. Users report clarity without discoloration.

Wyandotte Chemicals Corp., J. B. Ford Div., 130 Clark St., Wyandotte, Mich. (Item 312)



"Highlander" Safety Shoes

The Highlander line of oxfords and high shoes provides glove leather tanned with Scotchgard brand leather protector. This special treatment reportedly gives leather

more flexibility at low temperatures and more porosity.

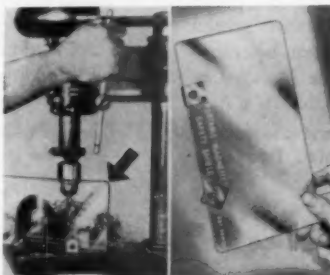
This treatment offers resistance to water, acid, alkalis, mold and perspiration. The shoes are protected with Goodyear Cobra oil proof soles and heels for safety.

H. Childs & Co., Inc., Iron Age Safety Shoe Div., Dept. H, 1205 Madison Ave., Pittsburgh 12, Pa. (Item 313)

Press-On Glass Cushions

Foam rubber cushions have been designed to ease pressure of glasses and prevent them from slipping. One size fits all requirements. Eezons are used on rocking pads, zyl frames, hearing aids and paddle temples. No tools or adhesives are necessary.

Eezon Mfg Co., 215-11 32nd Road, Bayside 61, N. Y. (Item 314)



Magnetic Safety Shield

A portable, magnetic safety shield provides protection to operators of drill presses, lathes, milling machines and grinders.

This device consists of a flexible transparent rectangle, $10\frac{1}{4} \times 5\frac{1}{2}$ -in., made of heavy vinyl sheeting, with corners rounded.

Attached to the lower edge of the shield are two permanent ceramic magnets, $1 \times 1 \times \frac{1}{4}$ -in. thick, placed 5-in. apart. These two magnets are mounted by single eyelets, slightly off center. This permits a swiveling action, so the shield may conform to any arc-like spot on a machine.

Either magnet is powerful enough to hold the shield in position. The shield may be mounted vertically, horizontally, at any angle or in a curved position. On large machines, two or more shields may be used in various positions to assure absolute protection.

The unit protects the worker's eyes, face, hands, arms, and clothing from being bombarded by hot shavings, chips or flying bits such as grains from a fast revolving grinder.

Better Specialties, Inc., 605 W. Washington Blvd., Chicago 6, Ill. (Item 315)



Emergency Fire Escape

It stows neatly under a window sill inside of the room. It provides a platform on top of the window sill with safety rails offering a firm grip for an individual making the turn around prior to descending. It fastens the bottom of the ladder to prevent it from moving.

Extruded aluminum shapes and non-skid aluminum plates are used for the combined ladder container and window sill safety platform. The ladder is suspended on a stainless steel shaft.

Marryatt, Lane & Co., Inc., George Washington Bridge Plaza, Fort Lee, N. J. (Item 316)



Lightweight Sandblast Helmet

A sandblast helmet for light duty operations is made of 6-oz. canvas.

The helmet is supported by a fiber head frame that adjusts to all sizes. The window is 3 x 5-in. clear laminated safety glass, protected by a fine mesh wire screen.

Additional wire screen openings are at each side of the helmet to provide for ventilation. A draw string at the neck assures a dust-free fit.

Albert W. Pendergast Safety Equip. Co., 6913 Tulip St., Philadelphia, Pa. (Item 317)

Overspeed Device For Grinders

An overspeed safety device with an anti-defeat feature has been incorporated in pneumatic grinders made by Thomas C. Wilson Inc., Long Island City, N. Y. The device is standard on all Wilson grinders with rated speeds of 7200 rpm or less to supplement the governor which normally controls wheel speed.

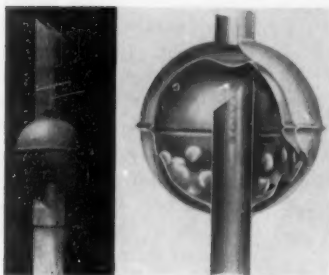
If the governor becomes inoperative because of improper adjustment or dirty air, the device functions to protect personnel from dangerous wheel speeds. It is not needed on grinders with rated speeds above 7200 rpm, as even as failure of their governors, their free speeds are safely below wheel proof speeds.

This device has a positive snap action which cuts off air to the motor before normal governed speed is exceeded by a safe margin. Air remains off until the device is reset.

Resetting requires removal of the throttle handle, which gives access to the governor as well as the safety device. This provision guards against defeat of the safety device by keeping a grinder in service without restoring the governor to normal operation.

The device is independent of the governor and is not subject to wear, since it functions only if rated speed is exceeded.

Thomas C. Wilson, Inc., 21-44 44th Ave., Long Island City, N. Y. (Item 318)



Engine Spark Arrester, Silencer

A spark arrester and silencer is on the market for internal combustion engines. Spark-Guard stops sparks by cooling exhaust

gases below the point of combustion in a double-walled, vented spherical chamber.

As gas enters the chamber, it starts a circular motion which dissipates heat through contact with the double walls. Simultaneously, sound waves bounce back and

forth within the chamber walls until they become so short they neutralize themselves.

This device affords unrestricted passage of exhaust gases, minimizing back pressure and providing longer valve life. The unit is self-cleaning, has no traps or clean-out plugs.

It is welded of heavy gauge metal and can be mounted on internal combustion engines, stationary or mobile, in horizontal or vertical positions.

This arrester-silencer is recommended for uses in the oil and petroleum industry, forestry operations, airport operation, agricultural work, and in general transportation or industrial use where hot gases or flying sparks can cause explosions or fires.

Locomotion Engineering, Sunnyvale, Calif. (Item 319)



Plexiglas Shear Guard

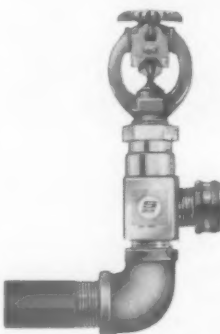
Designed for 30 and 36-in. metal squaring shears, this plexiglas shield permits the mark

on the metal to be cut to be clearly shown and prevents fingers from contacting the visible cutting blade.

This new Shearguard is adjustable for all metal thicknesses used in shear operations. This device also permits cutting any length or width up to the listed nominal cutting length safely with full visibility.

The guard is constructed of clear Plexiglas 3/4-in. thick by 4-in. wide, extending across the front of the shearing knife. The guard is fastened to the two side blade housings at each end of shear frame to be 3/8-in. above the top of the shear table. The bottom edge of the guard is recessed, where necessary, to clear table guides.

Brett-Guard Corp., 456 Nordhoff Place, Englewood, N. J. (Item 320)



Line Tester for Sprinkler Systems

For testing of fire protection sprinkler systems as a permanent installation in new or existing systems, Seco line testers can determine the condition of branch lines. By removing the side outlet cap, connecting a hose and turning the hex head to "open" position, a flow-test can be made for branch line obstructions.

Without sacrificing production or requiring shut-downs, these line testers also make possible a regular testing schedule to assure proper functioning of the system during a fire.

Seco Mfg. Inc., 4461 W. Jefferson, Detroit 9, Mich. (Item 321)



Hinge Pins Lock Selves In

Acetate spectacles are available with Lok-Tite hinge pins, machined of alloy of spring steel. They are hardened and nickel plated, snap in, spread out and lock themselves in. They can be

removed and replaced and reportedly reduce trouble caused by loose temple screws.

Fendall Co., 2222 Diversey Blvd., Chicago 47, Ill. (Item 322)

Work Glove Automat

The Work Glove Automat is suggested as one answer to the twin problem of efficient issue and close administrative control of work gloves.

This unit will fit into existing glove programs—free glove issue or sale at cost.

The Automat consists of a wall hung metal cabinet, usually located in the work area. Operating on special alloy tokens, it will dispense any type of work glove.

Features include a sensitive slug rejector and non-reset counter. In combination these function as automatic clerk, auditor and glove depot.

Arlington Industries, 1513 North Shore Road, Revere 51, Mass. (Item 323)



Dielectric Safety Headgear

These injection molded, plastic hats and caps are dielectrically tested to meet E.E.I. Specification AP-1 1959.

Lightweight, with no metal parts, the new Dielectric Hedgard hats and caps withstand repeated 40 ft. lb. impact tests. Molded lugs on the brim permit attachment of chin straps.

These dielectric models use a plastic snap-in suspension which holds the hat by gripping low on the back of the head. Snap-in suspension permits adjustment for head sizes 6-1/2 to 7-3/4, and adjustment of suspension on either side. The feature permits cleaning or sterilization, and replacement of leather or leatherette sweatband.

Davis Emergency Equip Co., Inc., 45 Halleck St., Newark 4, N. J. (Item 324)

Nylon Coveralls With Boots

Coveralls with attached boots are now being manufactured. The garments are made from lint-free white nylon pack cloth and are available without pockets and with plastic buttons or zipper front closing.

The boot is formed by continuing the back panel of the leg until it meets the sole of the boot, and by shaping the front panel of the leg to form the front of the foot. The sole is made from three thicknesses of nylon material, cross-stitched for strength.

The garments can also be made with attached gloves.

M. Setlow & Son, Inc., 131 Chestnut St., New Haven, Conn. (Item 325)



Plastic Filter For Arc Welding

Plastic-weld filters remove harmful ultraviolet and infrared rays of arc welding and filter them according to standards set for

glass in federal specifications.

Available in the standard 2 x 4 1/2-in. size and a 7 x 11-in. panoramic window version, these filters have outlasted glass by 6 to 1 in tests because of less breakage due to dropping, impact and thermal shock.

The 2 x 4 1/2-in. Plasti-Weld filter encased in a rubber gasket weighs less than one ounce. The 7 x 11-in. Plasti-Weld filter weighs 4 1/2 oz.

These filters can be used on the 401-16 and 403-16 helmets. A sample 2 x 4 1/2-in. Plasti-Weld filter for conventional welding helmets is available for a charge by contacting the manufacturer.

Chicago Eye Shield Co., 2727 W. Roscoe St., Chicago 18, Ill. (Item 326)



Dry Chemical Extinguisher

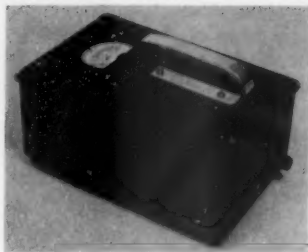
Designed for one-hand operation, Model PDC 2 1/2 B dry chemical fire extinguisher has the same fire-killing power as eight 1 or 1 1/2-quart vaporizing liquid extinguishers.

The unit features pictorial instructions, so little or no employee training is required. By squeezing handles together, a cloud of dry chemical is expelled under pressure. The extinguisher requires no servicing, unless used.

Underwriters rating is 4B:C. The unit has an effective discharge time of 10 seconds and, after use, may be recharged by refilling with prepackaged dry chemical and charging with air or nitrogen to 150 psi.

Finished in fire department red, the extinguisher weighs 4 3/4 lbs., is 14 1/2-in. tall, and has a mounting wall bracket. A rigid, clamp-type wall bracket is also available.

American LaFrance Corp., 100 E. LaFrance St., Elmira, N. Y. (Item 327)



Gamma, X-Ray Detector

The UTP 607-X X-ray and gamma-ray detector is a portable unit designed for detection and measurement of X-rays produced as a second-

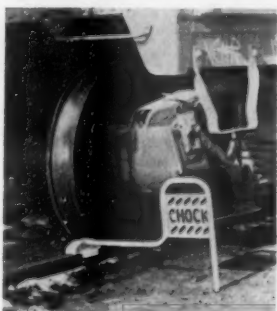
ary emission from high power radar transmitters, magnetrons, klystrons, any high potential cathode ray tubes, rectifiers, and high acceleration beam-type tubes.

The 607-X has internal shielding so the unit can make accurate X-ray measurements (± 15 per cent over the energy level 100 KEV-600 KEV) in the presence of high intensity RF pulses or other types of electromagnetic, magnetic, and electrical fields.

The unit reportedly meets rigid Air Force specifications, operating from four nickel cadmium $1\frac{1}{4}$ -volt "D" sized battery.

This instrument meets requirements of MIL-E-4158 and operates from batteries or standard ac line input.

Universal Transistor Prod. Corp., 36 Sylvester St., Westbury, L. I., N. Y. (Item 328)



Railroad Car Wheel Chocks

Hardened steel insert spurs bite into the rail head as wheel pressure increases, holding cars motionless.

These wheel chocks reduce hazardous accident problems with personnel and equipment in

parking rolling stock, piggy-back loading and unloading, air-brake testing, rip track repair, and diesel hosting.

The chocks are designed to prevent derailment if rolling stock should be powered over the chock.

The chock is available in four styles to meet needs on exposed or flush set rails and has safety grip handles for setting or removal.

The Aldon Co., Dept. 28, 3338 Ravenswood Avenue, Chicago 13, Ill. (Item 329)



Compressed Air "CA" Mask

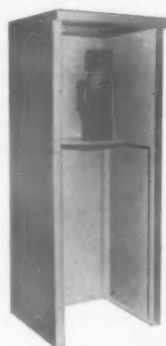
For routine mixing, cleaning and maintenance jobs or in welding, leading and grinding, plus tank cleaning or irrespirable conditions, a com-

pressed air "CA" mask is on the market.

This mask offers a choice of manual or regulator

control, has no catches to open or snag, and provides a quick-coupling attachment. The mask will fit standard $\frac{3}{8}$ -in. IPT connections. It is of die-cast construction.

Acme Protection Equip. Co., 1201 Kalamazoo Ave., South Haven, Mich. (Item 330)



Telephone Booth Noise Shield

An acoustical telephone booth features guaranteed high acoustic efficiency and steel clad construction.

The Noise Shield telephone booth accommodates pay telephones, wall telephones, handset telephones and intercom equipment in noisy locations.

Available in two models, the booth is a wall attached booth and a standing floor booth. These can be installed in factories, public buildings, hospitals, terminals and other such areas.

Industrial Acoustics Co., 341 Jackson Ave., New York 54, N. Y. (Item 331)



Cap Lamp

A new Edison Cap Lamp, which provides a 15 per cent increase in illumination and a reduction in over-all weight, features a simple bezel ring focusing arrangement, which is quickly positioned without

the aid of focusing tools. The reflector, lens, bulb and housing are engineered and designed to function as one unit to produce a positive "spot" and achieve brightest possible illumination. The krypton-gas-filled bulb has two identical filaments, each having a 400-hour service rating. Should one filament burn out, a simple head-piece switch energizes the other filament so that the same light is available to finish the work shift.

The addition of a new active material to the battery provides increased dependability, longer service life, and improved operating economy. Other improved battery features include a new soft rubber sealing gasket between the case and the cover, spot-welded battery connectors, sealed-in cable-to-battery connections, and spring-tension type terminals.

U.S. Bureau of Mines approval No. 6D-31 was granted to the lamp.

Mine Safety Appl. Co., 201 N. Braddock Ave., Pittsburgh 8, Pa. (Item 332)

NEWS ITEMS



L. E. Jordan

Scott Aviation Corp.

Lyman E. Jordan has been elected to the board of directors of Scott Aviation Corp. First as a consultant, then as general sales manager, he has headed this company's industrial sales efforts since 1950.

Robert J. Brewer is now assistant commercial sales manager of Scott in Lancaster.

Mr. Brewer has been with Scott since 1955 as a sales representative, later as sales promotion manager, Commercial Division.

In his new capacity he will be responsible for the sales efforts of Scott industrial safety and fire equipment distributors throughout the U.S.A. and Canada.



R. J. Brewer

Ansul Chemical Co.

Advanced techniques in fire-fighting will be taught this summer at the test station of Ansul Chemical Co., Marinette, Wis. Twelve sessions of the company's fire school have been scheduled from May 16 to September 26.

Employees of Ansul customers are eligible to attend the school without charge except for living expenses. Each session will last 2½ days. Trainees will be instructed in use of hand, wheeled and large-capacity Ansul equipment; fire fighting practice. Group discussions and training films are slated.

Ansul fire equipment users who want to send representatives to one of the fire school sessions should contact the closest Ansul regional office: Paoli, Pa.; Milwaukee, Wis.; Cleveland, Ohio; Kansas City, Mo.; and Burlingame, Calif.

Starting dates for the 12 sessions of Ansul's fire school are: May 16, May 23, June 6, June 13, June 27, July 18, Aug. 1, Aug. 8, Aug. 22, Sept. 12, Sept. 19, Sept. 26.



K. E. Brock

American Mat Corp., D. W. Moor Co.

Ken E. Brock will succeed D. W. Moor, Jr., recently deceased, as president of American Mat Corp., and D. W. Moor Co.

Mr. Brock, vice-president and director of the companies since 1948, previously had been general manager of Hall Manufacturing Co., and affiliated with Konopak & Dalton and Ernst & Ernst.

Universal Transistor Products Corp.

This manufacturer of transistorized power supplies and radiation detection instruments announces the appointment of three new engineering sales representatives:

Mr. M. Clifford Agress, Valley Stream, N. Y.—northern New Jersey, metropolitan New York, Long Island and southern New York, including Westchester County territory.

Northwest Sales & Engineering, Seattle, Wash.—northern California, Oregon, Washington, Montana, Idaho and Alaska territory.

Zaslow Sales Co., West Hartford, Conn.—New England territory.

Fibre-Metal Products Co.

Joseph (Joe) T. Bullock has joined the sales organization of The Fibre-Metal Products Co. in Chester, Pa., and will cover the Mid-Atlantic states of Pennsylvania, New Jersey, Delaware, Maryland and Vir-



J. B. Bullock

ginia, calling on distributors of welding and safety supplies. He will live in Ridley Park, Pa.

Charles Beane also has joined the company's sales organization and will cover the New England and New York state territory. He will live in Athol, Mass.



C. Beane

United States Rubber Co.

Norman J. LeCompte is now sales manager of waterproof protective clothing at United States Rubber Co. He succeeds Virgil A. Wibbelsman, retired after 40 years with the company. Mr. LeCompte will headquarter in U.S. Rubber's Washington, Ind., plant where the company's waterproof clothing is made.



F. F. Jaeger

Walter Kidde & Co., Inc.

Frank F. Jaeger has joined Walter Kidde & Company, Inc., and will work in the company's Chicago district office.

Mr. Jaeger is a specialist in the engineering of carbon dioxide fire extinguishing systems and will make system surveys, handle local system designs and certify completed installations. He has been in the fire safety equipment field for 17 years.

Guard Against
injury loss of life confusion
SUDDEN BLACKOUTS
panic destruction



be prepared with

Big Beam
AUTOMATIC EMERGENCY LIGHTS
Storage Battery Always Fully Charged—Built-in Charger
Just plug in a BIG BEAM Emergency Light and rest assured that when regular lights fail, your plant or building will be protected automatically with hours of bright, SAFE illumination. Variety of models available.

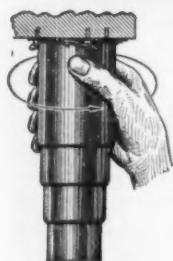
HAND LAMPS • FLARES
Wide range of hand lamps and flares also available, including Explosion-Proof Hand Lantern, Model 287EX for use in Hazardous Locations, Class 1, Group D, Approved by Underwriters' Laboratories.



Write for Bulletin 7025
on Complete Big Beam Line

U-C-LITE MFG. CO. 1027 W. Hubbard St. Chicago 22, Ill.
Canada: Bernard Marks & Co., Ltd., 70 Claremont St., Toronto 3, Ont.

Guide Pin Covers



PROTECT OPERATOR AND GUIDE PINS

Effectively guard against injury to operator, die and press on operations where bushings leave the guide pins. Protect pins and bushings from chips and dirt when entire pin and bushing are covered. Inexpensive, easy to attach.

Felt Oiler Ring in top units provides **POSITIVE** lubrication.



WRITE TODAY FOR DESCRIPTIVE FOLDER AND PRICE LIST

Name _____
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Title _____

Wiesman Manufacturing Co.

31 South St. Clair Street • Dayton 2, Ohio
Circle Item No. 89—Reader Service Card
128

Foot Protectors Combat Mower Mishaps

Designed to protect feet from cutting accidents by rotary mowers, metal foot protectors are the brainchild of Gordon Wunker of Loveland, Ohio. The protectors are not yet on the market.

The units look much like roller skates without rollers and can sup-



port 250 lbs. Each protector weighs 1 lb. 9 oz. They fit a range of sizes from No. 5 (boys') to No. 12½ (men's).

The protective toe is more than 3 in. high and is made of high-grade tempered 20-gauge steel, as is the adjustable top toe plate. A ¾-in.-thick piece of foam rubber, glued to the plate's underside, provides comfort.

To prevent rusting, the top toe plate adjusting screw is bronze. Other metallic parts that might rust are cadmium plated.

Sole and heel sections are 16-gauge tempered steel. The heel stop plate is aluminum. Two length adjusting slots with two holding bolts and lock washers add extra safety.

Ankle straps are 1-in.-wide woven webbing with self-adjusting buckle and foam rubber adjustable pad for ankle comfort. Caution warnings are printed on both protectors: for electric-powered mowers on the right foot and for gasoline-powered mowers on the left foot.



specify **PAC-KIT**
unit-packed protection
because:

STERILITY is assured—sealed units are for one use only;

MAINTENANCE is easy—a glance tells what's to be replenished;

WASTE is eliminated—you buy only what's needed, replace only what's used.

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Lock-Out for SAFETY

The
**TOP SAFETY
DEVICE**



- ELECTRIC SWITCH and FUSE BOXES
- GAS VALVES
- STEAM VALVES
- ACID VALVES

Osborn NSN
MANUFACTURING CORP.
WARSAW, INDIANA

Circle Item No. 91—Reader Service Card
National Safety News, April, 1960

TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.



How to Fit Safety Shoes

How to fit safety shoes on industrial workers is described in a booklet published by the Hy-Test Safety Shoe Division of International Shoe Company in cooperation with the Brannock Device Co., national authority on foot measuring devices. Profusely illustrated, the booklet provides simple step-by-step instructions showing how to achieve a perfect fit through accurate measurements of the arch length, toe length and foot width. In addition, the publication outlines mistakes often made by shoe fitters—and what to do to avoid them. The shoe safety publication also provides a chart showing how companies can maintain a well-balanced safety shoe stock inventory for women's and men's oxfords and men's shoes and boots. Hy-Test Safety Shoe Division, International Shoe Co., St. Louis 66, Mo.

For more details circle No. 400
on enclosed return postal card.

Safety Hand Tools

Ampco Metal, Inc., 1745 South 38th Street, Milwaukee 46, Wis., has made available a new safety tool catalog. Newest additions to the 24-page, illustrated catalog include: two sizes of channellock pliers, a small adjustable end wrench, several styles of air hammer chisels and eighteen sizes of allen wrenches.

For more details circle No. 401
on enclosed return postal card.

Automatic Radiation Monitoring

Automatic monitoring of gamma and beta radiation is discussed in a new booklet just released by BJ Electronics, Borg-Warner Corp., Santa Ana, Calif. Detectolab DZ14 Radiation Supervisor may be used to monitor background in low-level counting rooms, in the working areas of "hot" laboratories, and in industrial radiography installations, among numerous other applications. The portable instrument will sound an audible alarm and flash a red warning light when radioactive background rises beyond preset level.

For more details circle No. 402
on enclosed return postal card.

Fluorescent Safety Paint

Switzer Brothers, Inc., 4732 St. Clair Ave., Cleveland 3, Ohio, have made available a new catalog describing a new concept in high-visibility safety color for reducing industrial accidents. Through the use of a diagonal flap, the interior of a typical industrial plant is bisected to show DAY-GLO safety paint (printed in DAY-GLO ink) in comparison to normal safety color on crane hooks, a fork lift truck, critical switches, fire extinguisher, railings, signs, and other articles.

For more details circle No. 403
on enclosed return postal card.

Safety Cans and Containers

A complete new 1960 catalog illustrating and describing the entire line of oilers,

safety cans, and oil and gasoline containers produced by Eagle Manufacturing Co., 1056 Charles St., Wellsburg, W. Va., has been released by the company.

For more details circle No. 404
on enclosed return postal card.

Safety hats and Caps

Willson Products is introducing a new, eight-page descriptive flyer on Willson personal industrial safety hats and caps. All Willson hats and caps are reinforced at critical points, unaffected by extremes in temperature, and available in a variety of sizes and colors. Illustrated are Fiber-glas Hats and Caps, Aluminum Hats and Caps, Insulating Hats and Caps for electrical workers, Winter Liners, Quilted Liners, and Chin Straps. A new feature is the Willson Geodetic Strap Suspension. Geodetic suspension was developed through ten years of research by the Cornell Aeronautical Laboratory, Inc., and is available in the complete line of Willson Super-Tough hats and caps. Geodetic suspension dissipates impact shock waves over a wide area of the head by fitting the "great circle" or "geodetic" lines of the head. It conforms to the head and resists the tendency of the hat or cap to shift or tilt and crash against the skull under angular blows. Willson Products Division, Ray-O-Vac Co., 2nd and Washington Sts., Reading, Pa.

For more details circle No. 405
on enclosed return postal card.

Fire Hose

Republic Rubber Division, Youngstown, Ohio, has issued a new catalog on fire hose. The 16 pages include illustrations and specifications on all products in the categories of municipal, Underwriters', Factory Mutual, industrial, fire engine suction, and chemical. Other information in the catalog covers "Care and Use of Fire Hose," "Do's and Don'ts," "Wax and Provar Treatments," and "General Specifications and Couplings."

For more details circle No. 406
on enclosed return postal card.

Fork Trucks

Three explosion proof battery-powered fork trucks for use in hazardous locations are illustrated and described in a new 4-page folder No. TL-48, published by Industrial Truck Division, Clark Equipment Company, Battle Creek, Mich. The folder gives dimensional data and engineering specifications of the units, which can handle 3,000, 4,000 and 5,000 lb. loads. Safety features incorporated in these units are discussed and folder tells why the trucks are fully approved by Underwriters' Laboratories for use in locations where gasoline, naphtha, alcohols, acetone, benzene, butane, propane, benzol, lacquer solvents, and natural gas vapors might be encountered.

For more details circle No. 407
on enclosed return postal card.

Dry Abrasive Cutter

Bulletin DH-299 describes the Model 2-A Sever-All Dry Abrasive Cutting Machine. The 2-A Sever-All offers a fast, economical method of cutting solids, tubing, and structurals—cold-rolled steel, alloy steel and stainless steel, cast iron, and many nonferrous metals. It will cut solids up to 4 inches square, standard pipe and tubing up to 6 inches in diameter, angle iron up to 6" x 6", and channels up to 8 inches. Specifications such as rated capacity, power required, cutting wheel diameter, dimensions, and weights are listed. Allison-Campbell Division, American Chain and Cable Co., Inc., Bridgeport 2, Conn.

For more details circle No. 408
on enclosed return postal card.

"Trouble Saver" Safety Ladders

Bulletin SL-1 illustrates and describes the many advantages of Patent's new "Trouble Saver" safety ladders. Combining the safety and strength of steel construction with the efficiency of a rolling unit, these new safety ladders save time, labor, and effort in fixed height work in a wide range of applications. They are made in 20- and 30-in. widths in a complete range of sizes, from one to five steps without handrails, and from two to 12 steps with handrails. Design features include: all-welded construction, smooth-rolling casters which lock when user steps on ladder, flared base for greater stability, extra braces on taller ladders, expanded metal treads of improved design, and curved front rails on units without guard rails, making ladder easier to grasp for rolling. The Patent Scaffolding Co., Inc., 38-21—12th St., Long Island City 1, N. Y.

For more details circle No. 409
on enclosed return postal card.

Conic-Flow Silencers

Literature describing their newly designed Conic-Flow Silencers for high-pressure air conditioning and ventilating systems, is available from the Air Conditioning Department of Industrial Acoustics Company, Inc., 341 Jackson Ave., New York 54, N. Y.

For more details circle No. 410
on enclosed return postal card.

Gasoline Driven Electric Plants

A special folder, listing their entire line of gasoline engine-driven electric generating plants, has just been announced by D. W. Onan & Sons, Inc., Minneapolis 14, Minn. These compact, completely self-contained generator sets provide a dependable, independent source of electricity for primary power—where highline power is inconvenient or unavailable; for standby power—as protection against interruptions in commercial power in institutions, hospitals, utilities, hatcheries, hotels, police and fire departments; and for portable or mobile power for the operation of electric tools, appliances or lighting . . . anywhere. The folder lists each series of plants (both air- and water-cooled) in detail, with specifications for both engine,

generator, and controls outlined to make it comparatively simple for the reader to select the proper type of generating plant for his particular needs.

For more details circle No. 411
on enclosed return postal card.

Industrial Safety Gratings

A 24-page Safety Handbook No. 80 covers company's full line of safety gratings; stair treads ready made to fit almost any size; stock lengths of safety edgings and step bars in various designs. Included also are many illustrations to assist designers in adapting Bustin safety gratings to their own special purposes, such as work platforms, ladders, gangplanks, ramps, catwalks, or manhole covers. A full description is given of the six types of Bustin safety gratings designed to meet every safety need. Four pages are devoted to a full line of safety accessories made especially for the transportation industry. Bustin Steel Products Co., Dover, N. J.

For more details circle No. 412
on enclosed return postal card.

Self-Sticking Identification

A new 32-page maintenance-safety catalog illustrates and describes proper marking of piping systems, identification of plant wiring and electrical equipment, correct lubrication of machinery, and marking of hazardous plant areas and equipment. The Brady identification system is standardized to universally accepted industry practices, and conforms to standards set up by the American Standards Assn., National Electrical Manufacturers Assn., National Machine Tool Builders Assn., and various government and military specifications. W. H. Brady Co., Dept. MS, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle No. 413
on enclosed return postal card.

Dockboards

Bulletin No. TR-656 provides practical engineering data and charts for specifying magnesium dockboards and ramps to fit all rail and truck uses. Included are detailed instructions for determining axle capacity, width and allowances, crown or bend degrees, underclearances, locking range, park-out dimensions, height differentials, span sizes and other essentials to accurate and efficient dockboard application. Magnesium Products of Milwaukee, 740 N. Plankinton Ave., Milwaukee 3, Wis.

For more details circle No. 414
on enclosed return postal card.

Study of Fine Particles

The Gelman Instrument Co., Chelsea, Mich., has made available their Manual No. 3, "Study of Fine Particles." The booklet discusses methods of isolating, sizing, counting, and identifying fine particles in air, gas, and liquid streams. Techniques for use in air pollution, health physics, industrial hygiene, and industrial control.

For more details circle No. 415
on enclosed return postal card.

Noise Integrator

Bulletin No. 0818-3 describes the M-S-A Noise Integrator, a new instrument designed to measure possible hearing loss resulting from noise exposure. The illustrated release outlines application of the instrument to noise measurement problems in areas of rapidly varying sound levels, where industrial hygienists have previously encountered difficulties. By integrating signals collected during five-second cycles, the instrument provides data from which it is possible to predict the anticipated hearing loss resulting from a five-year exposure to a particular noise level. Tables are presented showing such hearing loss in decibels, based on five-year exposure, at different frequencies. Mine Safety Appliances Co., 301 N. Braddock Ave., Pittsburgh 8, Pa.

For more details circle No. 416
on enclosed return postal card.

Centralized Systems of Lubrication

Bulletin No. 26-T contains information on the complete line of centralized sys-

tems of lubrication offered by Farvel Division, Eaton Mfg. Co., 3300 E. 80th St., Cleveland 4, Ohio.

For more details circle No. 417
on enclosed return postal card.

Longer Concrete Floor Life

How Masterplate iron-armored concrete floors last six times longer than ordinary concrete floors is explained in this 24-page Bulletin MP-4d. Discussed are the major features sought in the design of any industrial floor subject to heavy use, i. e., wear and corrosion resistance; economy, spark resistance, static-dissipation, color, and nonslip, nondusting, easy-to-clean surfaces. The Master Builders Co., Cleveland 3, Ohio.

For more details circle No. 418
on enclosed return postal card.

Protective Coating

Master Bronze Powder Co., Inc., 538 W. State St., Calumet City, Ill., announces the availability of their newest 16-page industrial catalog covering Derusto protective coatings, Galv-a-grip, Derusto Colored Aluminum, New Derusto Minit-Finishes and special Derusto Chemical Resistant and Hi-Heat rust inhibitive coatings. A special feature of the catalog is a helpful selector guide to aid in determining the most effective and economical uses of protective coatings. The selector guide evaluates the technical properties of various coatings and enables the reader to determine the most suitable product for a wide variety of industrial uses. Another feature is the inclusion of two pages of actual paint chips to facilitate color matching. Many types of rust preventive applications in the industrial field are covered in complete detail.

For more details circle No. 419
on enclosed return postal card.

Nonslip Flooring

Norton Company has published a new floors catalog 1935-16, which describes Alundum aggregates and nonslip abrasives used to provide safe and wear-resistant walking surfaces, wet or dry. This nonslip flooring is available in four forms: Alundum terrazzo aggregate, Alundum cement floor aggregate, Alundum and Crystolon nonslip abrasive and Alundum stair and floor tile. Recommended uses, specifications, and the method of application for the first three of these forms of nonslip protection is described in the catalog. Norton Co., Worcester 6, Mass.

For more details circle No. 420
on enclosed return postal card.

Work Gloves

The Monte Glove Co., Maben, Miss., has made available a new work glove catalog showing their complete line. The catalog illustrates nylon-reinforced flannel gloves and the newly developed "Plied-Yarn" flannel gloves, gloves of leather, neoprene coated, plastic coated, abrasive finish plastic coated, and other materials. Listed items range from women's garden gloves to welder's gloves and mittens.

For more details circle No. 421
on enclosed return postal card.

Mobile Loading Ramps

Magline, Inc., offers their "Engineering Bulletin" which details the development and expansion of the company's line of mobile loading ramps into a completely integrated system of ground level loading for plant-wide shipping and receiving. According to Magline engineers, development of the new Mobil-Dock System is a direct result of the company's experience of solving a wide variety of plant and warehouse loading and handling problems through the use of the Mobile Loading Ramp. Plant-wide, systematic use of the mobile loading ramp is said to enable companies to spot incoming or outgoing shipments and to load and unload parts or materials exactly where and when required—achieving a smooth, low-cost flow of materials between production line and carrier vehicles, and eliminating delays, multiple handling, intermediate loading, and shuttling to and from fixed-dock locations. Typical problems illustrated in the

bulletin include: ground level plants, plants with limited dock facilities, scattered buildings with one central dock area, production line "purchase parts" feeding, away-from-plant operations such as outlying rail car loading, and other special conditions where the Mobil-Dock System has proved both versatile and effective. Magline, Inc., 1900 Mercer St., Pinconning, Mich.

For more details circle No. 422
on enclosed return postal card.

Hospital Cleaning Procedures

The Kent Company, Inc., Rome, N. Y., has made available a wall chart illustrating approved hospital cleaning procedures. It also has application in industrial and commercial buildings as well as hospitals.

For more details circle No. 423
on enclosed return postal card.

Unit Air Filters

Bulletin No. 207 describes company's complete line of permanent washable unit air filters and advantages of the Type HV-2, high capacity, low resistance unit; Type M/W, heavy-duty metal filter; Type AL-2, aluminum filter; Type S, spray booth filter; and special air filters such as those used with radar, electronic cabinet ventilation, airplanes, engine intake, and submarine services. Also included are explanations of filter maintenance methods and the equipment necessary, together with installation data. American Air Filter Co., Inc., Dept. Pd, 215 Central Ave., Louisville 8, Ky.

For more details circle No. 424
on enclosed return postal card.

Safety Glass

Laminated safety glass breaks but does not shatter into flying bits when exposed to hazards such as explosions. It is made by putting a tough resilient plastic film between two sheets of glass. Other types control heat and glare of sun. Monsanto Chemical Co., Indian Orchard, Springfield, Mass.

For more details circle No. 425
on enclosed return postal card.

One-Man System Protects Plant

This electronic watchdog detects fires, "sees" unauthorized people trying to sneak into grounds, spots sneak thief hiding in building to loot after hours. Only thing human about this "Peeping Tom" system is the guard sitting before the closed-circuit TV screen. He monitors this plant surveillance system from master panel which replaces battery of human guards on constant patrol. Literature gives full details. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.

For more details circle No. 426
on enclosed return postal card.

Safety Stepladders

Safety stepladders equipped with a new locking device are among the products featured in a new catalog available from Ballymore Co., Lincoln and Garfield Ave., West Chester, Pa. When the Ballylock is open, the ladder's hinged first step is slightly raised. Its rubber-tipped legs are above the floor. The ladder can be rolled easily from one place to another. When the user mounts the ladder, the first step lowers to normal position. The legs lower to grip the floor firmly. A latch engages securely. You release the Ballylock with a touch of the foot.

For more details circle No. 427
on enclosed return postal card.

Safety Signs

Over 2,000 stock wordings for safety signs are featured in a catalog available from Ready Made Sign Co., 115 Worth St., New York, N. Y.

For more details circle No. 428
on enclosed return postal card.

Floor Maintenance

"The Proper Care of Floors" is a 32-page booklet offered by West Chemical Products, Inc., 42-16 West St., Long Island City, N. Y. It tells how to ward off slipping hazards, while maintaining clean,

attractive floors. Modern methods of floor care and the merits of West's resin emulsion are discussed.

For more details circle No. 429
on enclosed return postal card.

Slings

New Tuffy Sling handbook provides a complete rundown on the selection and use of slings and sling fittings. It lists types, dimensions, weights, and rated loads. One section covers signal systems vital to safe material handling. Union Wire Rope Corp., 26th & Manchester Ave., Kansas City 26, Mo.

For more details circle No. 430
on enclosed return postal card.

Weed Control

Garlon, a product of Dow Chemical Co., has been developed to get rid of weeds and unwanted grass. One pint of Garlon in 3 gallons of water covers approximately 1,000 square feet. Six gallons in 150 to 300 gallons of water is enough for about an acre. It saves you labor, improves the appearance of your plant, and diminishes hazards. Complete product details including how-to-use instructions are contained in the manufacturer's bulletin. Dow Chemical Co., Abbott Road Bldg., Midland, Mich.

For more details circle No. 431
on enclosed return postal card.

Helmets and Safety Hats

Catalog No. 3344 describes welding helmets, safety hats, goggles, and face shields. Brief, informative product descriptions include dimensions, applications, reference to outstanding features, and prices. Jackson Products, Air Reduction Sales Co., 31739 Mound Road, Warren, Mich.

For more details circle No. 432
on enclosed return postal card.

Radiation Detector

Literature describes a radiation detector weighing under 5 pounds, indicates leakage and true dose from X-ray installations. Also shows strengths of radioisotopes in laboratories and plants. Battery-operated, two controls are range switch and zeroing knob. Victoreen Instrument Co., Cleveland 3, Ohio.

For more details circle No. 433
on enclosed return postal card.

Portal Radiation Monitor

Literature describes Portal Radiation Monitor spotted in entrance or exit to locate radioactive contamination on persons passing through. Visual and audible alarms indicate the presence of contamination. Nucleonic Corporation of America, 196 DeGraw St., Brooklyn, N. Y.

For more details circle No. 434
on enclosed return postal card.

Radiation Dosimeter

Radiation Dosimeter is pen-sized. It detects and gives visible warning of dangerous exposure to radiation. The device is easy to use, self-contained. Charges and recharges simply by shaking. It provides a cumulative measurement and an instantaneous reading. Literature gives full details. Electromation Co., Santa Monica, Calif.

For more details circle No. 435
on enclosed return postal card.

Explosive-Gas Alarm

Explosive-Gas Alarm consists of weather-resistant area detector and remote control box. Flashback-proof electronic detector senses combustible gas. At 0.2 of lower explosive level, light flashes on box. Literature gives full details. Johnson-Williams, Inc., Box 307, Station "A", Palo Alto, Calif.

For more details circle No. 436
on enclosed return postal card.

Fire Alarm Systems

A 76-page manual describes "Flex-Alarm" system of fire alarms, signal systems, automatic alarm controls. Many pictorial diagrams. Complete nomenclature and wiring for devices. The Game-

well Corp., 1299 Chestnut St., Newton Upper Falls 64, Mass.

For more details circle No. 437
on enclosed return postal card.

Wire Rope and Slings

Four 4-page pamphlets cover steel wire rope, slings, and clamps for lifting and hauling. Booklets describe each product, suggest applications, list size and strength specifications. Jones & Laughlin Steel Corp., No. 3 Gateway Center, Pittsburgh 22, Pa.

For more details circle No. 438
on enclosed return postal card.

Sound Control Products

This 12-page Bulletin No. 60 describes company's complete line of sound control products. Has acoustical data, sizes, finishes, mounting methods, other information for 18 sound-deadening materials and fixtures. Elof Hansson, Inc., 711 - 3rd Ave., New York 17, N. Y.

For more details circle No. 439
on enclosed return postal card.

Floor Care

This 27-page "Building Maintenance Manual" bulges with information on methods, and products for surface cleaning. Contains chart for care of 12 types of floors, cause-cure analysis of 16 problems, stain removal tips. S. C. Johnson & Son, Inc., 1525 Howe St., Racine, Wis.

For more details circle No. 440
on enclosed return postal card.

Floor Cleaning

Wide selection of powered cleaning equipment and materials comes in this 48-page Catalog No. 72. Contains 20 pages on wet and dry floor cleaners and vacuums for small to big jobs; 28 pages on materials for floor care. Finnell Systems, Inc., 550 East St., Elkhart, Ind.

For more details circle No. 441
on enclosed return postal card.

Decontamination

"How Fire and Explosion Hazards Can Be Removed" is the title of a 16-page bulletin that explains a service for cleaning unsafe areas. It shows how trained men and special equipment remove dangerous accumulations from duct systems, other places. Guardian Fire Reduction Co., 411 Center St., Little Rock, Ark.

For more details circle No. 442
on enclosed return postal card.

Work Gloves

Eight-page brochure on industrial gloves aims to control and cut workglove costs by helping select best glove for the job. It offers hand guards, safety sleeves, pads, mitts, and gloves for all types of work and handling exposures. Jomac, Inc., 6128 N. Woodstock, Philadelphia 38, Pa.

For more details circle No. 443
on enclosed return postal card.

Paints

"Engineered Color" is the title of an 18-page catalog that admirably treats the subject of color in the plant. Discusses use of color for better working conditions and safety, requirements of various surfaces. Application details included. Barreled Sunlight Paint Co., Dudley St., Providence 1, R. I.

For more details circle No. 444
on enclosed return postal card.

Group Showers

Booklet shows how more than one employee can have a private shower from one set of plumbing connections. System explained in A. I. A. File 29-H includes circular, multi-stall shower for 5 men, other systems for 3 or 2 men. Bradley Washfountain Co., 2237 W. Michigan St., Milwaukee 1, Wis.

For more details circle No. 445
on enclosed return postal card.

Signaling Equipment

Digest No. IN-1110 (44 pages - pocket size) describes what signaling is, how it can help plants, shows many examples of signal installations, bells, horns, and an-

nunciators. Brief summary of features of each device. Edwards Co., Inc., Norwalk, Conn.

For more details circle No. 446
on enclosed return postal card.

Aluminized Fabric

Minnesota Mining & Mfg. Co., St. Paul 6, Minn., has made available a booklet that discusses Aluminized fabric for protection against radiant heat. Protective clothing made of this material reflects 90% of radiant heat, sheds molten splash. It is also lightweight and offers the wearer freedom of movement.

For more details circle No. 447
on enclosed return postal card.

Protect Against Industrial Radiation

Radio activity, whether one likes it or not, is a day-to-day part of our present nuclear age. Consequently, detection of radiation, whether from fall-out, from nuclear power or process plants, from hospital or industrial wastes, or enemy action, is a continuing responsibility. Today, municipal fire, police, water, sewer, air pollution control departments need accurate, sturdy monitoring equipment to provide this protection. Illustrated technical literature gives full details on portable Gamma-Beta meters. Riggs Nuclearis Co., 717 N. Victory Blvd., Burbank, Calif.

For more details circle No. 448
on enclosed return postal card.

Sling Chains

Data Book No. 100 contains specifications and application instructions for Herc-Alloy Chain and Sling Chains, plus hooks and other accessories. Has special section on care, use, and inspection of Sling Chains. Columbus McKinnon Chain Corp., Tonawanda, N. Y.

For more details circle No. 449
on enclosed return postal card.

Hand Pumps

Data Sheets describe high-vacuum and double-action piston units for handling petroleum and other liquids. Include photos and specs. These sheets supplement an earlier 8-page catalog showing accessories and assembly chart. Tokheim Corp., 1670 Wabash Ave., Fort Wayne, Ind.

For more details circle No. 450
on enclosed return postal card.

Tread Plate

Application and fabrication data are given in 8-page booklet on abrasive tread plate. Includes table on design data and sketches of suggested safety applications for this non-skid, corrosion-resistant flooring material. Aluminum Co. of America, 1671 "F", Alcoa Bldg., Pittsburgh 19, Pa.

For more details circle No. 451
on enclosed return postal card.

Sound Protectors for Ears

Muff-type sound protectors shut off all abnormally loud noises harmful to the ear, but do not shut off normal conversation. These ruggedly-constructed but comfortable devices do not require fitting and adjusting, and are sanitary, according to the manufacturer. David Clark Co., Inc., 360 Park Ave., Worcester, Mass.

For more details circle No. 452
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Linemen's Equipment

Linemen's safety belts, safety straps, D-rings, and lanyards, are included in the Miller Equipment Co. Catalog No. 58-A. The entire line, including industrial hardware and safety tools, is reviewed. Product applications and specifications are cited. Miller Equipment Co., 15th and Eagle Sts., Franklin, Pa.

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Although the Council does not test or examine the products advertised or mentioned in the editorial features, staff engineers and technicians review all product information in an effort to determine that descriptions and performance claims are accurate. It should not be construed, however, that commercial products are approved or endorsed by the National Safety Council.

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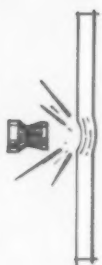
National Safety News
April, 1960

New CESCO MULTI-PLY WINDOWS



**pass molten lead
and air rifle
"torture" tests**

Here's dramatic, conclusive proof of resistance to heat and impact like you've never seen in a face shield window before! CESCO's new Multi-Ply windows were subjected to these torture tests with results that speak for themselves...



TEST NO. 1

A .22 cal. air rifle with a muzzle velocity of 450 ft. per sec. was fired at a .045" Multi-Ply window from a distance of 35 feet. Only a small superficial dent resulted. There was no shattering, no penetration. However, the same gun fired from the same distance pierced .032" Aluminum (24ST3) and .040" Cellulose Acetate regularly used for face shield windows.



TEST NO. 2

A ladle containing 6½ lbs. of 635 degree molten lead was poured on a Multi-Ply window for 45 seconds. Though the hot lead was poured on the same spot, none of it penetrated the window. Under identical circumstances a .040" acetate window melted in 9 seconds after only ½ lb. of lead was poured.

Heretofore the only way to be assured of increased resistance to heat and impact was to buy a window of increased thickness. But now CESCO Multi-Ply offers you vastly superior protection in one low-priced, volume-produced window—just .045" thick. Multi-Ply is

available in CESCO's six basic face shields—featuring fiber glass crowns and shells—new G-3 Nylanite headgear. Readily interchangeable with hard hats, the G-3 has a broad pivoting cross band adjustable for height and an offset cambered rear headband that's the last word in comfort.



Write for free booklet giving prices and full details about Multi-Ply windows

CESCO FOR SAFETY

CHICAGO EYE SHIELD COMPANY • 2705 West Roscoe Street, Chicago 18, Illinois

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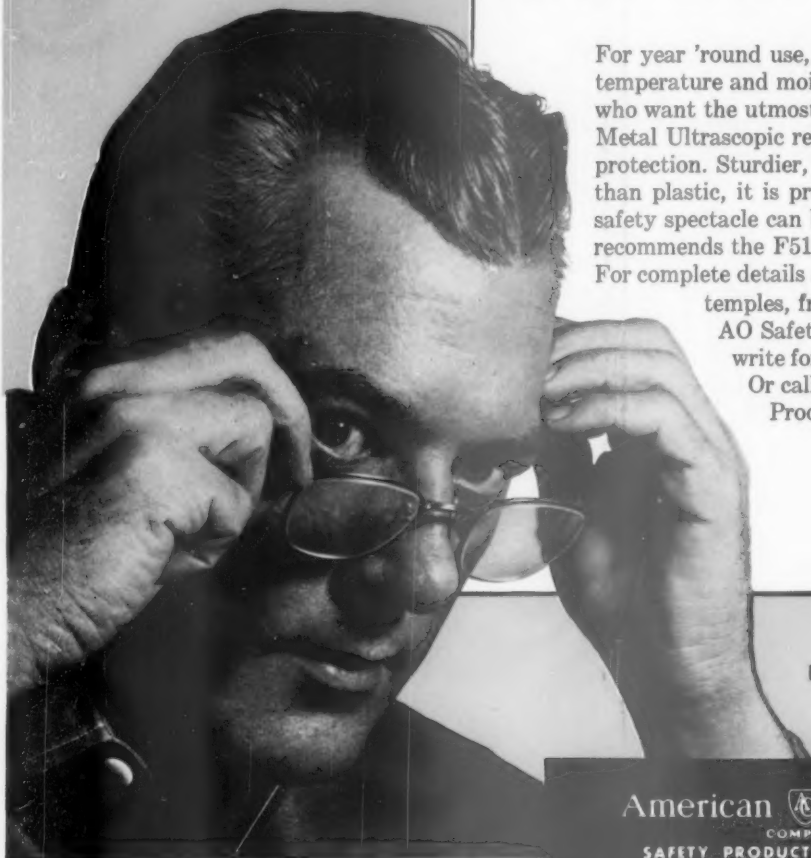
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For year 'round use, for meeting variations in temperature and moisture . . . for safety directors who want the utmost in durability, the AO Metal Ultrascopic remains first choice in eye protection. Sturdier, with a longer service life than plastic, it is preferred wherever a metal safety spectacle can be used. AO strongly recommends the F5100 Metal for fitting.

For complete details of bridge, lenses, side shields, temples, frame and other

AO Safety-engineered features, write for illustrated brochure S-8582.

Or call your nearest AO Safety Products Representative.



F5100 Safety Glasses

American Optical

COMPANY

SAFETY PRODUCTS DIVISION

SOUTHBIDGE, MASSACHUSETTS

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insist on
AO Trademarked
Safety Products



Combining the Durability of Metal with the Eye Appeal of Plastic Trim— SAFEMASTER*

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- Plastic trim is nonflammable.
- Frames exceed edge transverse, flat transverse, and solder joint tests of National Bureau of Standards.

**F5200 Series*

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